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ABSTRACT

Of the 19 projects conducted as part of the Defense Conversion Adjustment (DCA) Demonstration administered by the U.S. Department of Labor's Office of Work-Based Learning, 8 tested the worker mobility approach. The projects, which shared the common goal of helping dislocated defense workers find high-quality jobs, tested one or more of the following strategies: service to increase employability, training for specific occupations, and support for new business start-ups or "spinoffs." Projects provided one or more of the following: basic readjustment services; support services; and training in general, specific occupational, and/or entrepreneurial skills. Among the factors identified as critical to the effectiveness of the worker mobility approach were the following: setting realistic project goals/objectives grounded in known labor market conditions; building on existing services; working with organizations outside the employment and training community; forecasting target populations accurately; adjusting outreach strategies to changing conditions; improving/enhancing traditional job training; developing new models for basic readjustment services; providing support services; matching services with local labor market realities; identifying emerging occupations and growth areas/future labor needs in conjunction with regional economic planning; and using linkages with existing businesses to help entrepreneurs. (Appendixes constituting approximately 50% of this document contain profiles of the eight projects testing the occupational mobility approach and fact sheets for five additional DCA projects.) (MN)

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Research and Evaluation Report Series 97-D

U.S. Department of Labor
Employment and Training Administration
1997

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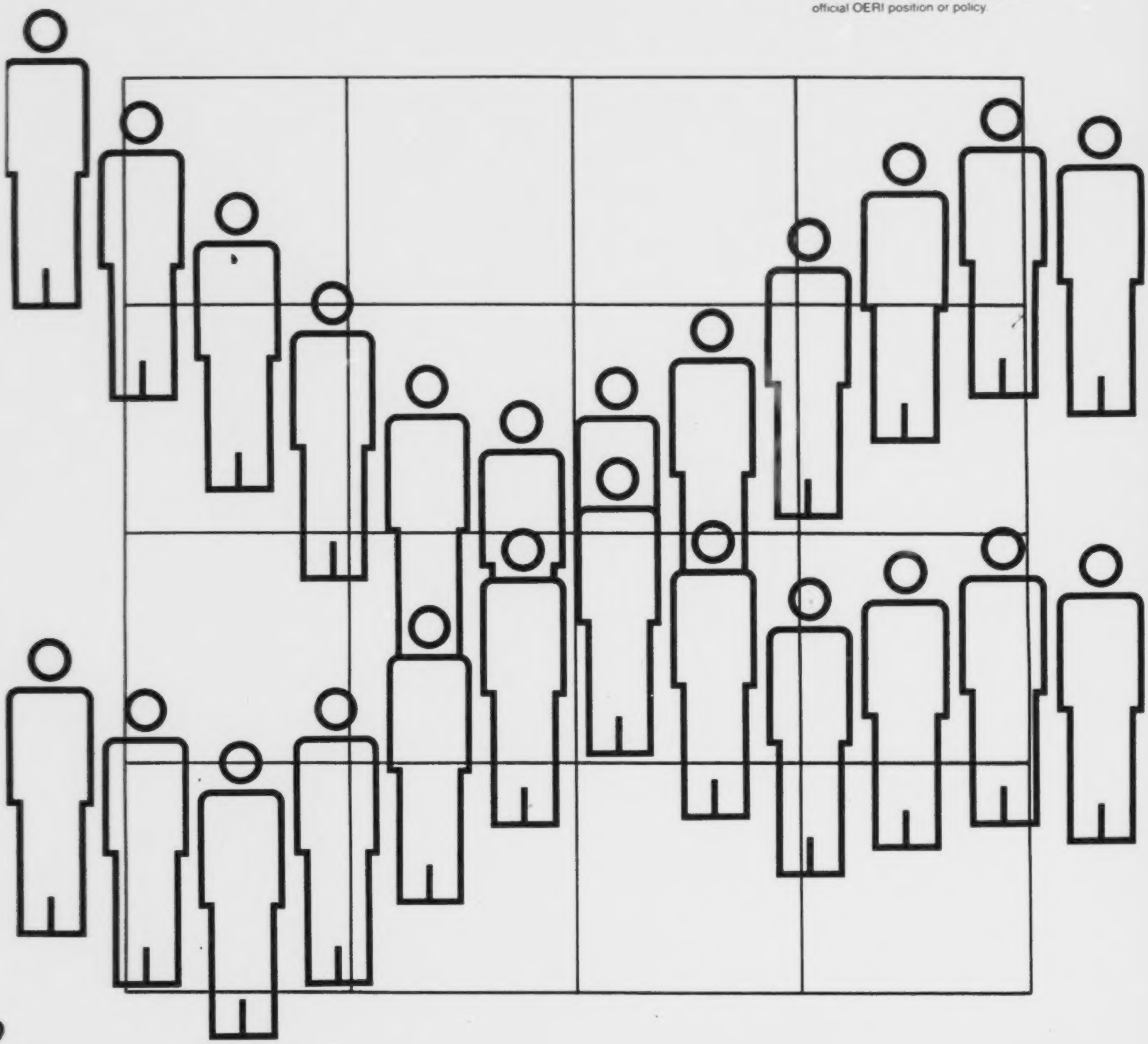

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1997

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The authors of this report would like to express their gratitude to a multitude of individuals and organizations, without whose cooperation and support this study of defense conversion practices could not have been accomplished.

First, we'd like to thank the talented and dedicated staff of two offices within the U.S. Department of Labor who provided not only the funding, but essential support and information: the Office of Policy and Research and the Office for Worker Readjustment Programs. Eileen Pederson, Eric Johnson, Doug Holl, Maurice Birch and Maureen Cronin were particularly valuable partners in this endeavor.

Second, we'd like to thank those who designed, operated and participated in the 19 Defense Conversion Adjustment (DCA) demonstration projects that were the primary subjects of this evaluation. These individuals, businesses and communities were truly pioneers in testing brand new ways of thinking about and responding to defense cutbacks, and many worked long hours to make their ideas work. These individuals nonetheless found time to sit down with us for hours of interviews, always doing their best to provide whatever information we asked for.

Third, we would like to thank those individuals and organizations who operated the "supplementary projects" we visited who volunteered to be part of this study. We are particularly appreciative of the managers, labor representatives, and employees of those defense firms that were willing to open their doors to our research staff.

Finally, many thanks to Eric Engles, whose calm patience and fine editorial skills were exactly what we needed to get these reports done. And we thank BPA's dedicated support staff, Pat Spikes-Calvin and Sasha Gottfried, for once again producing such visually-pleasing reports.

The Authors

PREFACE

Berkeley Planning Associates (BPA) and Social Policy Research Associates (SPR) are pleased to offer this final report from the evaluation of the Defense Conversion Adjustment (DCA) demonstration. An earlier report, the ***Interim Report on Implementation,*** presented preliminary observations on the design and implementation experiences of twelve of the DCA projects (those that were funded in the first round and began operations in early 1993). This report concludes the three-year long DCA demonstration and evaluation involving a total of 19 demonstration projects.

A wide range of individuals and organizations have followed the progress of the DCA grantees, including the U.S. Departments of Labor, Defense, Commerce and Energy, experts in the field of defense conversion, members of the employment and training community and, of course, the DCA grantees themselves. No single report can easily meet the informational needs of this heterogeneous group. For this reason we have "packaged" this report in three separate volumes, with an executive summary containing information from all three volumes, so that readers can select those volumes that interest them most.

Each volume corresponds with one of the three main approaches used in this demonstration to respond to defense downsizing. **Volume I, The Community Planning Approach**, contains descriptions and analysis of the projects in the demonstration that focused on planning responses to military facility closures or mass dislocation caused by extensive defense-related downsizing in their communities. **Volume II, The Dislocation Aversion Approach**, contains descriptions and analysis of the projects that worked with at-risk defense firms to support these firms' efforts to avert laying off workers as part of their conversion strategy. **Volume III, The Worker Mobility Approach**, contains descriptions and analysis of the projects that attempted to meet the employment and training needs of workers who had lost their jobs in the defense sector. A **Summary of Findings** summarizes lessons learned and presented in all three volumes.

Readers interested in the details of how each project designed and implemented defense conversion strategies are encouraged to refer to the individual project profiles in Appendix A of each volume. We have also included one-page "fact sheets" containing basic information on all the projects using a given approach as well as several additional projects that were selected and studied to supplement information gathered from the DCA projects.

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CHAPTER I

INTRODUCTION

I. INTRODUCTION

THE DEFENSE DRAWDOWN AND THE FEDERAL RESPONSE

Largely in response to the end of the Cold War, support for a political agenda aimed at American military superiority and an increased capacity for foreign intervention gave way to one more concerned with domestic issues. As a result of the fall of the Berlin Wall and the break-up of the former Soviet Union, large cuts in U.S. defense spending were initiated. Budget analysts predicted a drop in U.S. Department of Defense (DOD) outlays of 30% between 1987 and 1997. In absolute terms, these reductions were expected to amount to an average reduction of $10 billion per year over a ten-year period. As a percentage of gross national product, defense outlays were expected to fall from 6% in 1987 to 3.5% in 1997. Defense procurement was the category of DOD expenditures that was expected to be most affected by the cutbacks. Expenditures for DOD contractors were expected to drop by $46 billion between 1987 and 1997, while expenditures for military personnel were to decline by $25 billion over the same period.[1] Thus, the defense drawdown was expected to be particularly disruptive for defense-related industries.

Major changes in federal defense appropriations have indeed occurred. By 1993, defense outlays had dropped to 4.7% of the gross national product. Real defense spending declined $48 billion dollars between 1987 and 1993, resulting in the loss of 1.65 million jobs, 989,000 of them in the private sector. Based on current budget proposals and DOD projections, further reductions totaling an additional $45 billion are expected by 1999.[2] As with the cuts experienced prior to 1993, the private sector defense industry is expected to absorb the largest share of these cuts.

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[1] Defense Conversion Commission, *Adjusting to the Drawdown*, Washington, D.C., December 1992; and U.S. Congress, Office of Technology Assessment, *After the Cold War: Living with Lower Defense Spending*, Washington, D.C., February 1992.

[2] Norman C. Saunders. 1995. "Defense-Related Employment Retrenches." *Occupational Outlook Quarterly*. Vol. 39; No.2.; Roy E. Green. (1995). "Defense Conversion: A Syntax for Action." In *Best Practices in Defense Conversion*, ed. Karl F. Seidman, National Council for Urban Economic Development, Washington, D.C.

Although these reductions are substantial, it is important to note that reductions in defense spending beginning in 1987 came on the heels of the "greatest peacetime build-up that the world has ever known."[3] Fueled by dramatic increases in defense expenditures between 1980 and 1986, the U.S. economy in the late 1980's featured the highest proportion of defense-related employment since the Vietnam War (6.2% between 1985-1987).[4] Despite substantial cuts in defense spending between 1987 and 1995, defense spending in 1995 (measured in inflation-adjusted dollars) was still at a level equal to that of the early 1980's. Thus, current reductions in defense outlays and weapons procurement budgets must be seen in relation to the significant increases that immediately preceded them.

IMPACT OF REDUCTIONS IN DEFENSE SPENDING

Recent defense expenditure reductions have affected, and continue to affect, communities with concentrations of defense–related activities, defense–dependent firms, and individual defense–industry workers and DOD civilian personnel.

At the ***community level***, cutbacks in defense spending have had particularly devastating impacts on local areas in which a high percentage of local economic activity is related to defense contracting or the operation of affected military installations. Features of these high–impact areas include:

- High numbers of workers dislocated from DOD prime contractors, civilian employment at DOD installations, or military service at affected bases.

- Major secondary effects on local employment for defense subcontractors and local suppliers.

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[3] Jacques S. Gansler. 1995. *Defense Conversion: Transforming the Arsenal of Democracy*. Boston: MIT Press, p.1.

[4] Gansler (1995), based on 1992 data from the Office of Technology Assessment.

- Tertiary effects on local retail and service jobs, resulting in overall high unemployment and economic decline.

- Limited information about how to go about planning for economic development, job creation, and alternative uses of facilities, equipment, and human resources.

- A variety of organizations, agencies, and interest groups with concerns about the situation and the ability to offer resources to develop a coordinated community response.

At the ***firm level***, cutbacks in defense spending have had the greatest impact on firms that specialize in the production of components or products that are required to meet strict defense procurement specifications. Faced with sharp cutbacks or decreased demand for their products by DOD, these firms must become competitive by developing new products and/or new markets. Defense–dependent firms are characterized by:

- Substantial experience producing limited quantities of high-cost products to meet detailed military specifications.

- Little experience investing their own funds in research and development efforts to bring new products to market.

- Little experience developing flexible or diverse product lines.

- Little experience with activity-based cost accounting, inventory control procedures, or market research.

- Little experience with cost containment or continuous improvement strategies or procedures.

- Little experience with customer service and marketing to commercial customers.

Overall, many of these firms still control sizable resources in terms of facilities and equipment and a highly trained workforce. However, they face an immediate challenge in transferring these resources to production for non-defense markets.

At the ***individual worker level***, dislocated and at–risk defense workers, separated military personnel, and laid-off civilian DOD employees seek new jobs in the non–defense sector. These workers are characterized by:

- Relatively high levels of education and technical skills.
- Relatively older ages and higher levels of unionization than other manufacturing workers.
- High wages, as much as 25% above "market value" in other industries.
- Manufacturing skills that are increasingly obsolete.
- Extensive job–related experience and training that may not be reflected in formal educational credentials.
- Familiarity with a defense industry corporate culture that emphasizes bureaucratic top–down decision making rather than participatory work teams, and technical specificity over cost control and efficiency.
- A lack of information about non-defense occupations and employers.

In their search for new jobs, some workers need relatively little help in areas such as job search assistance and short–term skills training. Others need to learn new skills to prepare them for new careers. In areas with high concentrations of defense–dependent firms or military bases, dislocated defense workers face a job market with limited reemployment opportunities, and one saturated with experienced job seekers possessing similar skills. In such cases, workers have been forced to consider relocating or seeking new jobs that may or may not build on their existing skills.

The federal government provides assistance to communities, firms, and workers affected by defense cutbacks through several programs.

FEDERAL ASSISTANCE TO IMPACTED COMMUNITIES

The federal government has responded to defense downsizing by making funds available through a variety of agencies and organizations that support a broad range of conversion activities.

The Office of Economic Adjustment (OEA) within the Department of Defense supports long-range planning in communities affected by base closures and realignments by providing planning grants and direct technical assistance to local government agencies and community groups. OEA-funded planning efforts generally focus on the re-use of military installations and defense plants. The program's budget expanded under the community initiatives provisions of the Defense Authorization and Appropriations Act of 1993. OEA was funded at $39 million for FY 95.

The Economic Development Administration (EDA) in the Department of Commerce (DOC) provides grants to support a wide range of initiatives designed to counter economic decline rooted in defense downsizing. The Sudden and Severe Economic Dislocation Program (SSED) provides grant support to help communities facing major job losses from both defense and non-defense-related dislocation. Funds may be used for technical assistance, planning, and implementation of adjustment plans supported by OEA. While plans require coordination with local education and training authorities, worker retraining is not usually a central planning focus. To enable it to respond to the needs of communities affected by current defense cutbacks, this program received expanded funding under both the National Defense Authorization Act of 1991 and the FY 1993 Defense Authorization and Appropriations Acts. As of this writing, however, the program was at risk in budget negotiations.[5]

The DOC Economic Development Administration (EDA) has coordinated with the DOD via a memorandum of understanding and interagency task forces in an effort to support community infrastructural development, particularly in areas affected by base closures. The EDA made $50 million in funds available in 1993, and increased that amount to $180 million in 1994.[6]

ASSISTANCE TO AFFECTED FIRMS

Several federal agencies have attempted to address the readjustment needs of defense-dependent firms. The National Institute for Standards in Technology (NIST) within the Department of Commerce (DOC) has allocated funds for conversion activities through its Advanced Technology Program (ATP). This program, aimed at the development of new commercial technologies, maintained a $150 million budget in 1993 and more than tripled that figure the following year.[7] Other NIST initiatives are aimed at improving the efficiency of and developing high-quality practices and procedures in the manufacturing sector of the U.S. economy.

One of the most significant federal programs designed to assist private-sector defense firms to enter new markets is the Technology Reinvestment Project (TRP). This multi-agency program was authorized by the National Defense Authorization Act of 1993, and received $605 million funding during FY 1993. The program is housed and administered in the Department of Defense's Advanced Projects Research Agency (APRA), but represents a collaborative effort on the part of many federal agencies including APRA, the Department of Energy (DOE), the National Institute for Standards in Technology (NIST) in the Department of Commerce, the National Science Foundation, the National Aeronautics and Space Administration, and the Department of Transportation. The White House National Economic Council oversees the program. TRP funds are designated to support three types of activities: (1) the development of technologies with potential commercial applications; (2) the dissemination of existing technology to support increased competitiveness of firms in defense and commercial markets; and (3) the retraining of dislocated or at-risk workers in defense-dependent firms.[8] Although the TRP's objectives are similar to those of the ATP, the TRP emphasizes the development of *dual-use* technologies in particular.

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[5] James Bridgman. 1995. "1995's Meager Base Closure Round." *The New Economy*. Vol. 6, No .2. *National Commission for Economic Conversion and Disarmament.*

[6] Woodrow W. Clark. 1994. "Defense Conversion — The Economic Conversion of the World Economies: The American Example." *Journal of Business and Industrial Marketing*. Vol. 9, No. 4.

[7] Clark, 1994.

ASSISTANCE TO AFFECTED WORKERS

The Economic Dislocation and Worker Adjustment Assistance (EDWAA) program administered under Title III of the Job Training Partnership Act by the Department of Labor (DOL) focuses on retraining and readjustment for individual dislocated workers. Although defense conversion adjustment is not explicitly addressed in the EDWAA legislation, state and substate grantees for Title III have been heavily involved in responding to the needs of workers dislocated as a result of base closures and defense plant layoffs.

To address the substantial impacts of defense cutbacks, the National Defense Authorization Act of 1991 allocated $150 million to the Department of Labor to operate a new Defense Conversion Adjustment Program (DCA), administered under Section 325 of JTPA Title III. Under the DCA program, grants were awarded to states, EDWAA substate grantees, employers, and business and labor associations to provide retraining, adjustment assistance, and placement services to individual defense workers and civilian DOD employees dislocated as a result of reductions in defense expenditures or closures of military facilities. As described in the next section, one section of the legislation creating the DCA program also called for the demonstration projects that are the subject of this report.

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[8] See "U.S. Agencies Work Together to Encourage High Technology." 1994. *Business America*. Vol. 115, No .8; Bennett Harris. 1994. "When Government Gets It Right." *Technology Review*. Vol. 97, No. 7.

In addition, the FY 1993 Defense Authorization and Appropriations Act included $75 million for the Defense Diversification Program (DDP) administered by the Department of Labor under Section 325 of the Job Training Partnership Act (JTPA) Title III. The DDP program makes grants available to states, substate grantees, employers, representatives of employees, and labor-management committees for training, adjustment assistance and employment services. Under certain circumstances, DDP funds may also be used to provide skills upgrading to employed individuals in non-managerial positions. In PY 1995, after the DCA and DDP appropriation were fully obligated, DOL received authority to continue funding DCA and DDP projects with JTPA Title III, Part B funds.

The Department of Labor also operates the Trade Adjustment Assistance Program (TAA) for dislocated workers who lose their jobs as a direct consequence of foreign competition or changes in international trade. The program, established in 1962 and changed substantially in 1974 and 1981, offers extended Unemployment Insurance (UI) benefits called Trade Readjustment Allowances (TRAs), re-employment services, and training to eligible dislocated workers. Although the program is not industry-specific, most recipients of TAA assistance are laid off from manufacturing jobs.[9] Thus, many dislocated defense workers have been determined eligible as large-scale production work is increasingly shipped overseas.

The U.S. Department of Education (DOE) has provided assistance to dislocated defense workers through the provision of funds for continuing education. In general, the DOE has attempted to support the retraining of workers who are unlikely to secure jobs in the same fields. The DOE has also undertaken specific efforts to link dislocated defense workers to public educational institutions through its consideration of new programs such as the "troops to teachers" initiative or its interest in creating high-tech classrooms.[10]

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[9] Paul T. Decker and Walter Corson. 1995. "International Trade and Worker Displacement: Evaluation of the Trade Adjustment Assistance Program." *Industrial and Labor Relations Review*, Vol. 48, No. 4.

[10] Clark. 1994.

THE DEFENSE CONVERSION ADJUSTMENT (DCA) DEMONSTRATION

Section 325(d) of Title III of the JTPA provided funding for demonstration projects as part of the DCA program to encourage and promote innovative responses to defense-related dislocations. In an initial announcement in the *Federal Register* on May 12, 1992, DOL announced the availability of approximately $5 million for projects in the areas of dislocation aversion, increased worker mobility, community planning, economic development, and local initiatives. Twelve demonstration grants were awarded in November 1992 for an initial 18-month demonstration period. Of the 12, seven subsequently received funding for an additional 12-month "option year." A second round of DCA demonstration funding was announced in the *Federal Register* on June 3, 1993, and seven additional grants totaling approximately $3.4 million were announced on November 22, 1993. Funding for an additional "option year" was not available to these projects. Although some projects received no-cost extensions beyond their planned end dates, all but one of the projects had terminated by December 1995.[11] This report presents findings on the implementation experiences and outcomes of all nineteen DCA demonstration projects.

The demonstration announcements emphasized that the purpose of the DCA demonstration projects was to undertake innovative approaches not otherwise found in standard Title III or Defense Conversion Adjustment programs. Areas of potential innovation included:

- Use of grantee organizations and administrative entities not generally responsible for dislocated worker services.

- Targeting of demonstration activities and services to individuals and groups not generally included in EDWAA services, including defense-dependent firms and impacted communities as well as individual workers dislocated or at risk of dislocation as a result of the reductions in defense spending.

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[11] The one exception was the Military Certification (MilCert) project at Clemson University in South Carolina, which was extended through June 1996.

- Provision of a wide range of services and activities related to defense conversion objectives, including, for example, formation of community task forces, business development assistance, entrepreneurial training, workforce training in high performance workplace skills and total quality management concepts, as well as training in technical fields for individual workers.

- Coordination of DCA demonstration activities with defense conversion activities supported by other funding sources (including, for example, economic development or community adjustment funding).

Although the Defense Conversion Adjustment demonstration grants were awarded under five different categories—dislocation aversion, increased worker mobility, community planning, economic development, and locally initiated—the different DCA demonstration approaches can be described using three conceptual approaches. These approaches are the community planning approach, the dislocation aversion approach, and the worker mobility approach. Some demonstrations used a single approach, while others developed designs that combined approaches.

THE COMMUNITY PLANNING APPROACH

The community-level impacts of defense cutbacks are particularly severe when defense-related facilities downsized or closed resulting in mass layoffs within a limited geographical area. In such cases, the layoffs sometimes have devastating effects on the local economy, causing substantial secondary layoffs among dependent businesses in the community and limiting the immediate employment prospects for workers affected by the original layoff. Further complications arise when, as is often the case, large numbers of workers with similar skills suddenly begin seeking jobs in an already tight labor market.

Paradoxically, the potential for disaster posed by events like military base closures or significant defense contractor downsizing provides communities with unique opportunities for social and economic revitalization. The community planning approach was designed specifically to help communities develop innovative and creative responses to the impacts of a defense-related facility downsizing or closure.

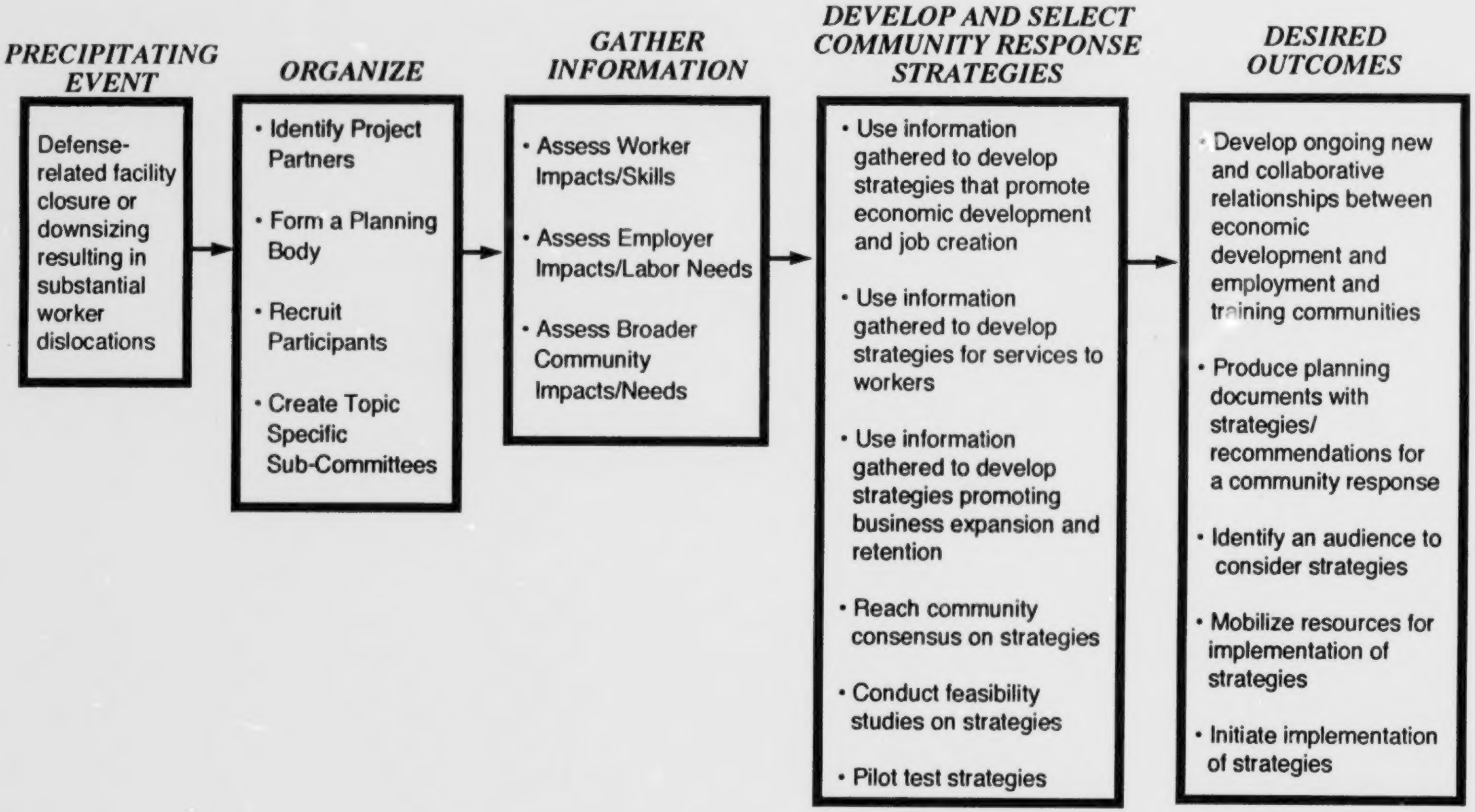
Figure I-1 depicts the strategy for the community planning approach. As shown, the precipitating event was an impending closure or downsizing of a defense-related facility in an area unusually dependent on the defense industry. The community planning approach emphasized the activities needed to develop a coherent and unified community response to the local situation. These activities included: organizing stakeholders; gathering and analyzing information; and developing and selecting community response strategies. While implementation of the community response strategies is the ultimate outcome of the planning effort, implementation was not part of the funding for the DCA demonstration projects. However, by the end of the demonstration, planning projects should have initiated activities to facilitate the implementation of recommended community strategies.

Generally, the community planning approach was designed to support, coordinate, and/or expand the formal and grassroots activities initiated by local officials, community agencies, and other interest groups. Worker adjustment services and worker retraining were usually only one set of issues on the local planning agenda. The DCA community planning demonstration provided grantees with an opportunity to ensure that human resource issues were addressed along with other community issues such as economic development.

The community planning approach represented a substantial departure from traditional EDWAA activities as well as from the activities funded under regular non-demonstration DCA or DDP grants. By funding community planning projects under the Defense Conversion Adjustment demonstration, DOL hoped to identify innovative approaches for linking workforce development issues with longer-term regional economic development and/or reuse of military facilities. Ideally, this linked planning process would also address the immediate needs of the workers dislocated from defense-related employment.

Figure I-1

COMMUNITY PLANNING APPROACH



PRECIPITATING EVENT

Defense-related facility closure or downsizing resulting in substantial worker dislocations

ORGANIZE

- Identify Project Partners
- Form a Planning Body
- Recruit Participants
- Create Topic Specific Sub-Committees

GATHER INFORMATION

- Assess Worker Impacts/Skills
- Assess Employer Impacts/Labor Needs
- Assess Broader Community Impacts/Needs

DEVELOP AND SELECT COMMUNITY RESPONSE STRATEGIES

- Use information gathered to develop strategies that promote economic development and job creation
- Use information gathered to develop strategies for services to workers
- Use information gathered to develop strategies promoting business expansion and retention
- Reach community consensus on strategies
- Conduct feasibility studies on strategies
- Pilot test strategies

DESIRED OUTCOMES

- Develop ongoing new and collaborative relationships between economic development and employment and training communities
- Produce planning documents with strategies/ recommendations for a community response
- Identify an audience to consider strategies
- Mobilize resources for implementation of strategies
- Initiate implementation of strategies

THE DISLOCATION AVERSION APPROACH

In the ***dislocation aversion approach***, defense-dependent firms were assisted in restructuring their operations to compete successfully in commercial markets. In contrast to traditional EDWAA services, which assist individual workers, the intent was to reduce dislocations through early intervention for the firm as a whole to preserve the jobs of employees at risk of dislocation.

Figure I-2 depicts the general approach for projects that tested dislocation aversion strategies. The precipitating event was usually one or more defense-dependent firms experiencing a sharp decline in sales as a direct or indirect result of declining defense procurements. After identifying and selecting defense-dependent firms that were interested in (1) restructuring for competition in non-defense markets and (2) using worker retraining as one tool to further diversification or conversion efforts and prevent layoffs, projects using the dislocation aversion approach intervened to assist the firm(s) in one or more of the following processes:

(1) Assessing the firm's strengths and weaknesses and opportunities for conversion or diversification.

(2) Developing detailed strategic plans for conversion or diversification, including developing financing for implementing the strategic plan.

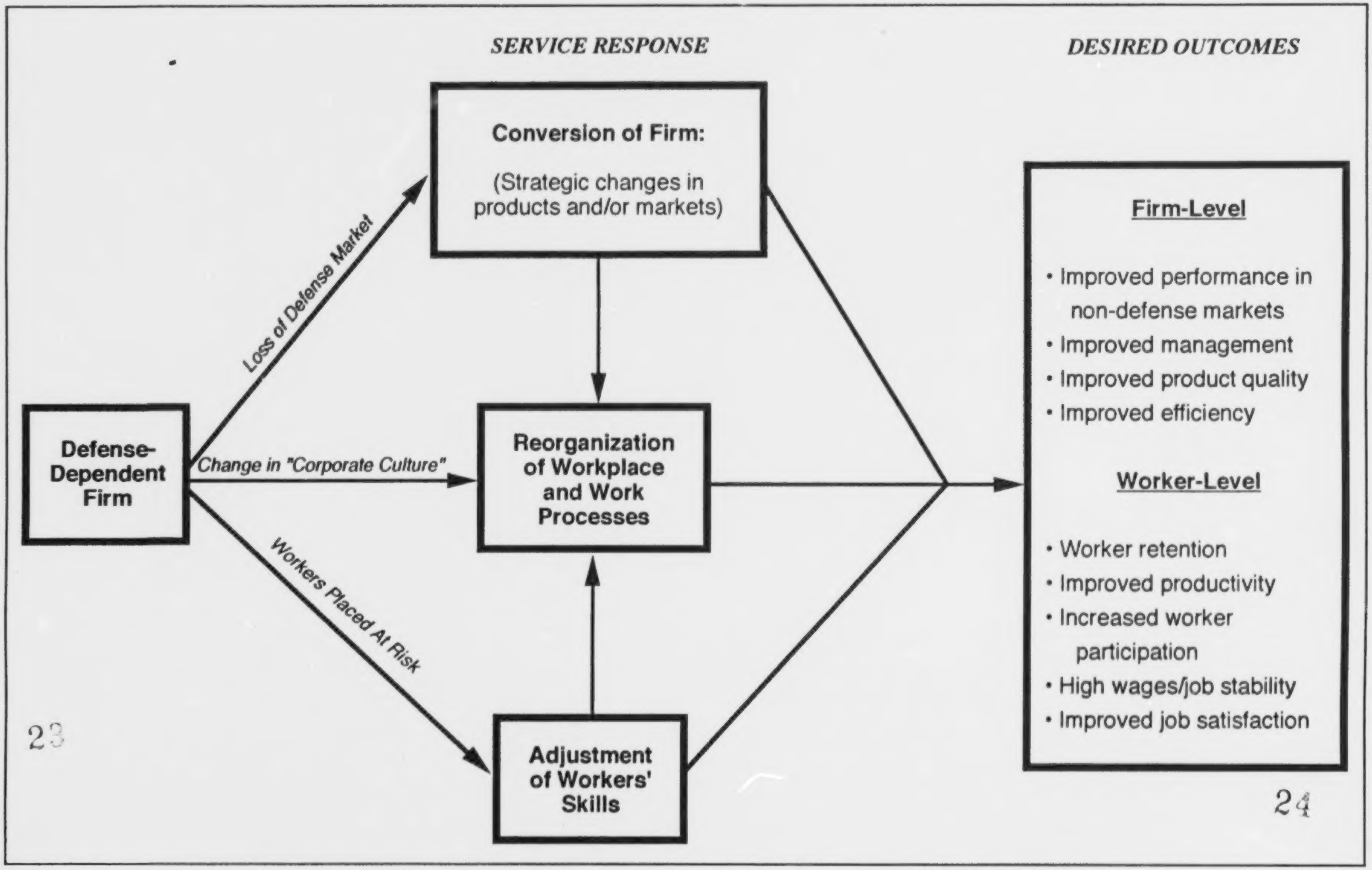
(3) Reorganizing the workplace to implement improved technologies, more flexible production procedures, or transformed worker roles and responsibilities.

(4) Providing technical assistance and training to managers in marketing, reorganization of production, financial restructuring, record-keeping, and total quality management, as needed.

(5) Retraining workers in needed technical or high performance workplace skills necessary to help the firm compete in broader markets.

Figure I-2

DISLOCATION AVERSION APPROACH


SERVICE RESPONSE
DESIRED OUTCOMES
Conversion of Firm:
(Strategic changes in products and/or markets)
Defense-Dependent Firm
Loss of Defense Market
Change in "Corporate Culture"
Workers Placed At Risk
Reorganization of Workplace and Work Processes
Adjustment of Workers' Skills
Firm-Level
• Improved performance in non-defense markets
• Improved management
• Improved product quality
• Improved efficiency
Worker-Level
• Worker retention
• Improved productivity
• Increased worker participation
• High wages/job stability
• Improved job satisfaction
23
24

Like the community planning approach, the dislocation aversion strategy represented a substantial departure from traditional EDWAA approaches. Although it was hoped that the Worker Adjustment and Retraining Notification Act (WARN) provisions for advance notification of layoffs would permit layoff aversion to occur under Title III, there is not usually enough lead time under WARN to permit successful restructuring at the company level. To be able to turn around the financial status of a troubled firm, the dislocation aversion approach needed to (1) intervene early enough to be able to positively influence the firm's financial state and (2) provide or arrange for sophisticated management assistance to guide successful restructuring.

A second important departure from mainstream EDWAA approaches was the focus on at-risk workers, as opposed to those who have already separated or received layoff notices. At-risk workers are not currently eligible for services funded under other provisions of Title III. Although it is obviously an essential part of any dislocation aversion strategy, the freedom to target at-risk workers raised a series of operational issues concerning who to select for participation, and what services to offer to affected workers. These issues were raised explicitly in the demonstration grant announcement, along with the requirement to consult with representatives of affected employees during both design and implementation of the projects.

Lastly, dislocation aversion strategies implied radically new types of training and target populations. Targeted workers included highly skilled engineers, managers, and business owners as well as production workers. As described in this report, the dislocation aversion projects provided a broad array of training approaches and curricula. In addition to employer-customized occupational skills training (some of it in advanced technical fields), training was provided in statistical process control, advanced marketing techniques, just-in-time inventory and procurement, participatory management, total quality management, teamwork, and communications skills. Training of this scope is not unknown in EDWAA, but current experience remains quite limited. Some projects may serve as models for future efforts to train highly-skilled at-risk workers, encourage employer and worker participation in curriculum design, involve management consultants and similar service providers, and develop on-the-job training practices.

THE WORKER MOBILITY APPROACH

Although a number of layoff aversion efforts were successful, large numbers of defense industry workers and civilian DOD employees nonetheless suffered dislocations as a result of reduced defense expenditures. Worker mobility projects served the needs of defense workers after dislocation occurred or when dislocation was unavoidable. Although the worker mobility demonstrations shared their general approach with the EDWAA program as well as with the Defense Conversion Adjustment and Defense Diversification programs as a whole, the DCA demonstration projectss were intended to test new and innovative ways of increasing mobility for workers affected by the defense drawdown.

Figure I-3 depicts the general worker mobility approach. The precipitating event was usually the reduction or elimination of one or more defense contracts which caused a defense-dependent firm to announce layoffs. In communities and regions hard hit by reductions in defense contracting, the precipitating event was not usually a single layoff but a number of layoffs across a wide range of firms over an extended period. Worker mobility projects were also organized in response to announcements of the closure or downsizing of military facilities that resulted in job loss for civilian DOD employees and/or military personnel.

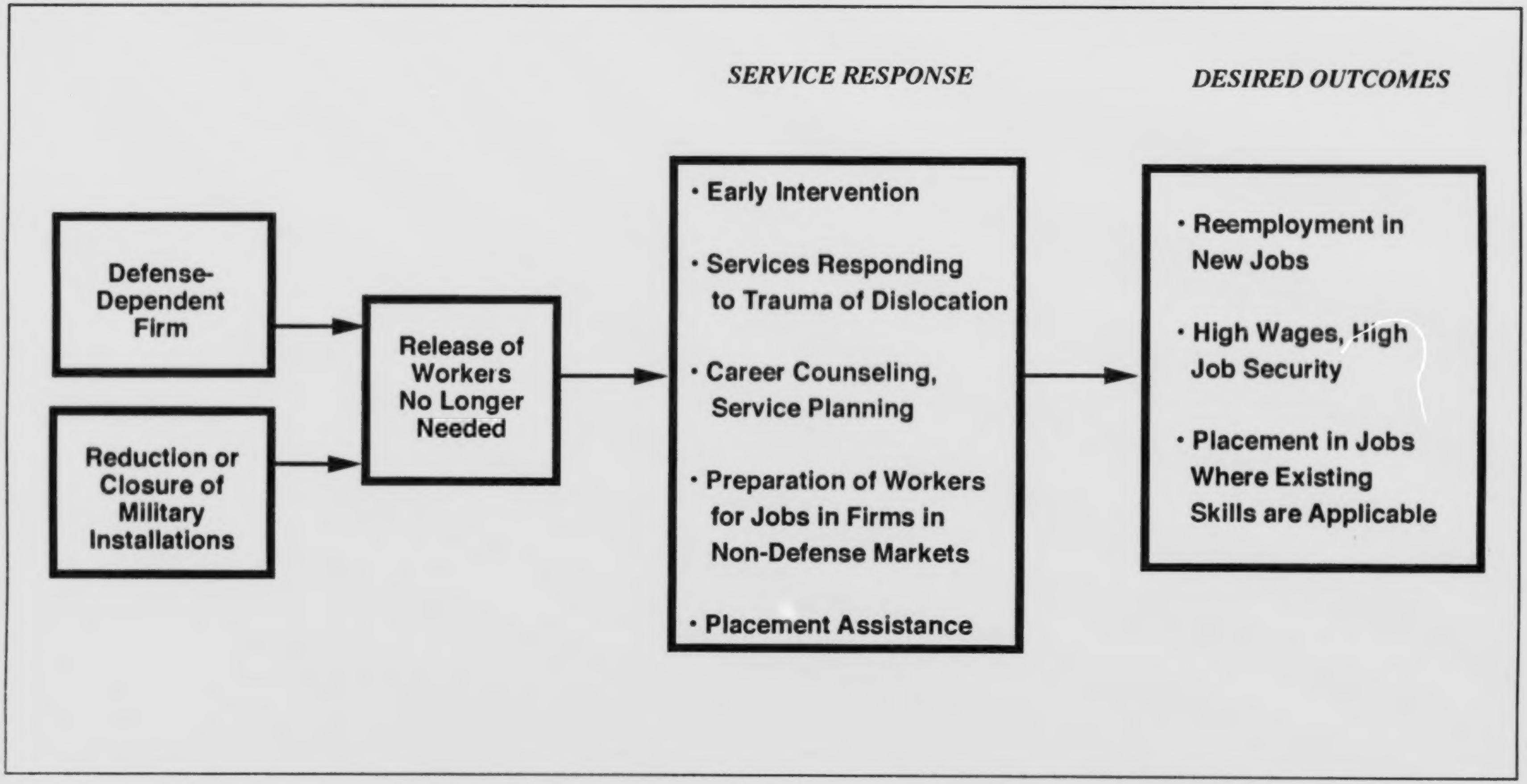
After identifying a group of workers laid off from defense-related employment, the worker mobility approach seeks to intervene as soon as possible to help affected workers obtain re-employment in high-quality jobs offering high wages, benefits, and job security. Projects using the worker mobility approach attempted to assist workers using a number of strategies, including:

(1) Providing services responding to the crisis-adjustment needs of dislocated workers, including personal and family counseling, financial counseling, and stress-management services.

(2) Assessing individual skills and interests, identifying employment barriers and transferable skills, and assisting workers in their exploration of occupational choices and their development of individual employment goals and strategies.

Figure I-3

WORKER MOBILITY APPROACH


SERVICE RESPONSE
DESIRED OUTCOMES
Defense-Dependent Firm
Reduction or Closure of Military Installations
Release of Workers No Longer Needed
• Early Intervention
• Services Responding to Trauma of Dislocation
• Career Counseling, Service Planning
• Preparation of Workers for Jobs in Firms in Non-Defense Markets
• Placement Assistance
• Reemployment in New Jobs
• High Wages, High Job Security
• Placement in Jobs Where Existing Skills are Applicable

(3) Identifying occupations in the economy that can absorb the skills of dislocated workers and assisting workers in transferring their skills to these jobs through skills certification, short-term skills enhancement, or longer-term retraining.

(4) Assisting interested individuals in starting small businesses or joint ventures aimed at transferring technology developed in the defense sector to commercial applications.

(5) Training workers in the cultural and organizational differences between defense-oriented and commercially-oriented workplaces (e.g., training in high performance workplace skills).

(6) Assisting workers in marketing their defense/military work experience to commercial employers.

(7) Assisting workers in identifying job opportunities in other geographic regions and planning for relocation.

Opportunities for innovation under the worker mobility demonstrations included (1) experimenting with new and different organizational arrangements for project administration and service delivery; (2) designing a project targeted to workers from an identified occupational grouping (e.g., aerospace designers and draftspersons) or interested in a specific re-employment occupation (e.g., primary and secondary school teaching); and (3) coordinating the worker mobility approach with job creation or economic development strategies.

Potential organizational innovations included the involvement of new types of agencies and institutions in the design and delivery of services for dislocated defense workers, as well as the development of new types of partnerships among agencies. The DCA demonstration grant announcements encouraged applications from firms, employer associations, labor associations, and other agencies, in addition to the substate entities responsible for administration of services under EDWAA.

The worker mobility demonstration projects also had the opportunity to design innovative services tailored to the specific needs of dislocated defense workers or separated military personnel. These innovations consisted of developing new skills-enhancement or retraining curricula to prepare selected target groups for new careers in the commercial sector, or new basic readjustment-service designs that prepare dislocated defense workers to market their skills to non-defense employers.

Finally, worker mobility demonstration projects experimented with linkages between economic development strategies and worker mobility approaches. In the announcement of funding availability for the Round 1 DCA demonstration grants, DOL invited proposals in a separate category called economic development. The *Federal Register* announcement encouraged applicants under this category to coordinate OEA community planning funds with demonstration funding for worker retraining to support the creation of new jobs through the reuse of vacated military facilities. While this specific configuration did not emerge under the DCA demonstration projects, several demonstration projects tried to link the achievement of worker mobility and economic development objectives by encouraging the transfer of technology and worker skills from defense applications to commercial applications; e.g., through small business startups or joint ventures between defense and non-defense firms. These projects served as examples for ways in which further efforts can coordinate worker retraining/re-employment and economic development activities.

EVALUATION OBJECTIVES AND METHODS

The evaluation of the Defense Conversion Adjustment Demonstration had three major objectives:

(1) To describe and document the implementation and short-term outcomes of the demonstration projects as they relate to the specific problems faced in defense-related dislocations.

(2) To identify exemplary approaches to the specific problems faced in defense-related dislocations.

(3) To identify the factors that facilitate or impede the success of various responses to defense conversion.

To accomplish these objectives, the evaluation design required the collection of qualitative and quantitative information to describe or evaluate (1) the design of the demonstration projects, (2) how the demonstrations evolved over time to meet the distinct challenges posed by their environments and individual objectives, and (3) what they accomplished. While data collection procedures were designed to provide comparable data across the projects, they also maintained enough flexibility to capture the unique and innovative features of each project.

DATA COLLECTION AND ANALYSIS

Qualitative data on project designs, implementation experiences, and outcomes were collected through intensive site visits to each of the 19 demonstration projects. These visits were supplemented by ongoing reviews of relevant written materials, such as project proposals and quarterly progress reports submitted to DOL. This report includes findings based on two or three site visits to each DCA demonstration project conducted over the period of its operation.

Qualitative data collection was guided by a series of written topic guides[12] for discussions with:

- Project administrators and other demonstration partners.
- Participating firms.
- Worker representatives.
- Agencies or individuals involved in the design or delivery of business services to firms.
- Agencies or individuals involved in the design or delivery of services to dislocated or at-risk defense industry workers.

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[12] We developed different versions of the data collection tools for use at projects testing different defense conversion approaches. For some discussion guides, we developed two versions—one for projects serving at-risk workers and one for projects serving dislocated workers. For other guides, we designed separate sections or modules within a single guide for use at projects testing particular approaches.

- Selected workers receiving demonstration services.
- Representatives of other community agencies.

While on site, field researchers also reviewed written case file records for individual participants and written curriculum materials for worker services.

ADDITION OF SUPPLEMENTARY SITES

Although there were 19 DCA demonstration projects included in the evaluation, it was difficult to identify patterns of success and failure because the projects represented widely varying defense conversion approaches. There were relatively small numbers of examples of each approach—dislocation aversion, worker mobility and community planning—and large variations across projects within groups. For this reason, we sought and received authorization to supplement the research by studying a limited number of *non*-DCA demonstration projects. These projects used alternative sources of federal funding to support defense conversion activities. The supplementary sites enriched the findings regarding defense conversion activities by (1) confirming the identification of successful patterns in service design and delivery, (2) adding information about strategies and designs that were not represented among the demonstration projects, and (3) increasing our ability to identify and address common issues in the defense conversion process.

For supplementary sites, we sought projects that:

- Used job-training or reemployment services as a strategy to pursue readjustment objectives or involved human resource agencies in planning responses to defense downsizing.
- Used public funds to support some aspect of services or training.[13]
- Demonstrated clear progress toward achieving conversion objectives.

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[13] Vision 2020, a supplementary project visited during the first phase of the evaluation, was funded solely by the private firm that undertook this project.

After reviewing the literature and soliciting nominations from knowledgeable respondents, we selected 17 supplementary sites, and conducted site visits to 12 of these sites. Visits to two dislocation aversion supplementary projects were conducted during the first 18 months of the evaluation; visits to three community planning projects, four dislocation aversion projects and three worker mobility projects were conducted during the last year of the study. Five additional projects, two representing the worker mobility approach and three representing the community planning approach, were contacted for in-depth telephone interviews.

OVERVIEW OF THE FINAL REPORT

This report contains three volumes and an Executive Summary. Volumes I, II, and III are each devoted to a single demonstration approach—community planning, dislocation aversion, and worker mobility. Each volume contains a cross-site discussion of the projects' key commonalities and differences, their success in meeting their objectives, and suggestions of strategies that emerge from the case studies. Each volume also includes detailed project profiles describing DCA demonstration projects pursuing the approach addressed by that volume, and one-page fact sheets describing both the demonstration projects and the supplementary sites from which data were collected.

OVERVIEW OF THIS VOLUME

Volume III presents the findings from a cross-site analysis of the DCA demonstration projects and supplementary projects that used the worker mobility approach. Chapter II provides an overview of the key features of the worker mobility projects, including discussions of their goals and objectives, recruitment and selection of participants, organizational roles and relationships, service designs and delivery, and outcomes. In Chapter III, we present key cross-site findings about successful and unsuccessful designs and strategies and how these may be applied in future worker mobility projects. Chapter IV presents conclusions based on the experiences of the projects and discusses implications for policymakers and program planners. Additional information on the individual projects discussed in this report is found in Appendix A, which includes detailed Project Profiles for the DCA demonstration projects that included worker mobility approaches. One-page Fact Sheets describing the supplementary projects are found in Appendix B.

CHAPTER II

AN OVERVIEW OF THE WORKER MOBILITYPROJECTS

II. OVERVIEW OF THE WORKER MOBILITY PROJECTS

INTRODUCTION

The worker mobility projects in this demonstration attempted to respond to the needs of defense industry workers, military service personnel, and/or civilian Department of Defense (DOD) employees at military facilities who were dislocated as a result of cutbacks in defense spending. Whereas community planning projects ***planned responses*** at the community level to minimize the negative effects of facility closures, and dislocation aversion projects provided assistance to defense firms to ***prevent layoffs***, projects using the worker mobility approach generally targeted individuals ***already laid-off*** as a result of reductions in defense spending.

In this chapter we provide a descriptive overview of the Defense Conversion Adjustment (DCA) demonstration worker mobility projects. Readers interested in the details of each project's experience are also encouraged to read the individual project profiles in Appendix A.[1]

Figure II-1 summarizes the key features of the eight DCA projects that tested worker mobility strategies.[2] A brief description of each project follows:

Project Earn, in Titusville, Florida targeted approximately 500 workers affected by the cancellation of McDonnell Douglas' advanced cruise missile program at the firm's facility in

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[1] All eight projects received funding for at least 18 months of operation. Six projects received funding in the first round of awards, and began in November 1992. Three of these received additional funding to continue operations another year (Milcert, Operation StepOut and C3), but one of these, (C3) discontinued activities and returned the second phase of funding. The Texas and Minnesota projects were among the DCA grantees that received awards in late 1993, and operated from early 1994 to the summer of 1995.

[2] Three of these projects, the San Diego DCA Project, the Minnesota DCA Project, and the IAM DCA Project were "multi-approach projects." That is, they also tested dislocation aversion strategies. For information about their experiences as compared to other dislocation aversion projects, readers should refer to Volume II of this Final Report.

Figure II-1

AN OVERVIEW OF THE DCA WORKER MOBILITY PROJECTS

Grantee/Project Area	Strategy/Goal	Target Group	Key Features/Activities	Key Outcomes
International Association of Machinists and Aerospace Workers (IAM) Defense Conversion Demonstration IAM Lodge 727 ($500,000) Burbank, California	Assist in the reemployment of dislocated defense workers	Dislocated defense industry production workers with experience with composite materials	▸ Provide training for skills identified by local employers in emerging technologies ▸ Develop job opportunities for participants by working closely with potential employers	▸ Recruited about 20 potential employers ▸ Trained about 50 workers in composite materials ▸ Number of placements unknown
San Diego County Defense Conversion Adjustment Demonstration San Diego Consortium and Private Industry Council ($470,660) San Diego, California	▸ Assist defense workers to find replacement jobs ▸ Assist defense workers to start new high-tech businesses	Dislocated defense workers, including those with high-tech skills	▸ Deliver services to dislocated workers, including high-tech entrepreneurial training, Total Quality Management (TQM) skills training, and Computer-Aided Three-Dimensional Interactive Application (CATIA) drafting software	▸ Provided entrepreneurial training and support to 19 defense workers, 18 of whom started enterprises ▸ Trained 145 workers in either TQM or CATIA, and placed at least 70%
Center for Commercial Competitiveness (C3) ($452,269) State University of New York Binghamton, New York	Assist defense workers to start up new businesses or find replacement jobs	Dislocated defense workers with professional or technical skills	▸ Classroom training in self-directed teamwork and commercial competitiveness ▸ Support for project teams to develop new businesses or contract with local firms	▸ 45 participants completed ten weeks of training in commercial competitiveness ▸ Some teams completed projects in collaboration with local firms
Military Certification Project (MilCert) University of Clemson ($967,891) Clemson, South Carolina	Assist military personnel to become teachers in South Carolina	Separating military officers	▸ Assist in completing prerequisites for Clemson University's teacher certification program ▸ Assist in placing participants in paid internships in South Carolina schools	▸ Responded to 2,200 phone inquiries from potential applicants ▸ Evaluated 524 transcripts ▸ Enrolled 32 participants ▸ 10 participants completed teacher training and began internships
Project Earn McDonnell Douglas Aerospace East ($497,249) Titusville, Florida	Assist laid-off employees from McDonnell Douglas to find replacement jobs	Production workers and managers laid off from McDonnell Douglas' Titusville facility after cancellation of Advanced Cruise Missile Program	▸ Provide basic readjustment services, including assessment, career counseling and job search assistance ▸ Provide short-term training to upgrade skills	▸ Enrolled 281 participants ▸ Terminated 199 participants ▸ Placed 55% in jobs ▸ Average placement wage 81% of pre-layoff wage

Figure II-1 *[continued]*

Grantee/Project Area	Strategy/Goal	Target Group	Key Features/Activities	Key Outcomes
Operation StepOut Arizona Governor's Office for Women ($846,770) Tempe, Arizona	Assist participants' transition to non-defense employers and affect change in "sexist" corporate culture	Well-educated and/or highly skilled women dislocated or at-risk of dislocation from defense sector	▸ Assessment, career counseling, job search assistance services ▸ Seminar on gender issues ▸ Access to career networking group	▸ 505 women participated ▸ Improved participants' job search and career awareness ▸ Little or no effect on increasing employment of participants
Alternative Fuels Training Project Texas Railroad Commission ($480,979) Dallas-Ft. Worth, Texas	Train and place dislocated defense workers in emerging high technology occupations	Workers with automotive skills dislocated from Dallas - Ft. Worth area defense contractors	▸ Support development of curriculum ▸ Provide skills training ▸ Assist in certification process ▸ Assist in placement of participants	▸ Enrolled 123 workers ▸ Placed 94 participants, 24 as alternative fuels technicians ▸ Developed and won certification of training package
Minnesota Defense Conversion Adjustment Demonstration Project Minnesota Department of Jobs and Training ($444,142) Minneapolis, Minnesota	To increase reemployability of at-risk defense workers in one at-risk defense firm	At-risk assembly line workers at Alliant Techsystems	▸ Provided training and skills upgrading to workers at risk of layoff to enhance their chances or reemployment	▸ Prevented layoffs of some workers due to their participation in training

Titusville. Project planners expected that most of the affected workers would be able to find reemployment in high technology and aerospace jobs in the local labor market.

Operation StepOut, in Tempe, Arizona, targeted women dislocated from and at-risk of dislocation from defense-related employment. This project designed career counseling services and a seminar on career advancement issues for women to help participants find good jobs with career potential in the commercial sector. The project also attempted to reduce gender barriers in corporate culture by placing women in strategic managerial positions.

The San Diego County Defense Conversion Adjustment Demonstration, in San Diego, California designed two short-term training courses to help dislocated aerospace engineers, designers, and manufacturing industry workers find new jobs in the local labor market. Participants were selected from among the local substate area's pool of EDWAA enrollees/applicants. The project also assisted dislocated defense industry workers in developing and implementing their concepts for "high tech" businesses through the CONNECT Program at U.C. San Diego Extension.

MilCert, in Clemson, South Carolina attempted to recruit commissioned and non-commissioned officers faced with involuntary separation or early retirement from military service. These individuals received assistance in entering training for second careers as primary or secondary school teachers in "critical need" subjects in South Carolina.

The Defense Conversion Adjustment Demonstration in Burbank, California, administered by the International Association of Machinists and Aerospace Workers (IAM), wanted to target dislocated defense workers for reemployment in jobs in the "advanced transportation" industry, particularly in businesses fabricating composite materials and other components for electric vehicles.

The DCA project administered by the **Center for Commercial Competitiveness (C3) in Binghamton, New York**, was designed to stimulate regional economic growth by linking dislocated defense industry engineers and managers with local firms to develop new products, markets, or services based on technologies developed in defense contracting. The project hoped that individual participants would be hired by participating companies or start up their own businesses as a result of this process.

The Alternative Fuels Training Project, administered from Austin, Texas, prepared dislocated defense workers in the Dallas-Fort Worth metropolitan area for new careers as fleet managers, conversion technicians, or maintenance technicians for vehicles powered with alternative fuels, such as propane and liquefied petroleum gas.

The Alliant Techsystems Project, administered by the Teamsters Service Bureau in Minneapolis, Minnesota, was designed to assist the employees in one large, at-risk defense firm through skills upgrading intended either to save their jobs or increase their reemployability in the event that they were laid-off.

To provide more information about variations in the design, implementation and effectiveness of the worker mobility approach, we also collected information about five supplementary projects funded from other sources that also helped dislocated defense workers find jobs. One page "Fact Sheets" on each of these projects may be found in Appendix B. The five projects we studied are:

The Employment & Training Institute (ETI) Career Transition Center was a program serving the employment and training needs of over 3,500 laid-off employees from two defense firms in Connecticut (Pratt & Whitney and Hamilton Standard). Operated by a for-profit corporation with years of experience serving dislocated workers, this model "one-stop" offered a rich, well-funded array of customer-driven services.

South Bay Aerospace Network (PAN), a consortium of 16 substate areas in the Los Angeles area, is testing a regional approach to serving dislocated defense workers. The Aerospace Network has pooled the resources and vendors of the Service Delivery Areas (SDAs) to increase customer choice and streamline services.

ED>Net (California Community College Economic Development Network) is a DOD-funded, statewide initiative to increase the capacity of community colleges to provide training to former defense sector workers to prepare them for jobs in emerging industries.

Glenview Naval Air Station "WINGS" is a one-stop career center serving several hundred laid-off workers from the Glenview Naval Air Station in Glenview, Illinois. Operated by the local substate area, this project uses vouchers and an active Labor-Management Committee to deliver high quality services.

Grissom "SPIRIT" Center serves workers dislocated from the Grissom Air Force Base in Peru, Indiana. Although the services are fairly traditional, this PIC operates on High Performance Workplace Organizational (HPWO) principles, teaching Total Quality Management (TQM) to staff and operating an on-base one-stop center to meet the employment and training needs of its approximately 100 enrollees.

Figure II-2 summarizes the features of the five supplementary projects.

PROJECT GOALS AND OBJECTIVES

The DCA and supplementary worker mobility projects shared a common goal of helping dislocated defense workers find high-quality jobs. Each project was dedicated to the challenge of shortening spells of unemployment for former defense workers and helping them find jobs with high wages and good benefits. Each project defined its own objectives in terms of successfully implementing its plans and successfully placing its participants. Thus, although the goals and objectives of the worker mobility projects were very similar, the means to achieving their goals differed. The projects can be distinguished from each other by three distinct strategies used to achieve their goal.

Figure II-2

AN OVERVIEW OF THE SUPPLEMENTARYWORKER MOBILITY PROJECTS

Grantee/Project Area	Strategy/Goal	Target Group	Key Features/Activities	Key Outcomes
ETI Career Transition Center East Hartford, Connecticut	Assist laid-off workers from two defense firms to find replacement jobs	Former employees of Pratt & Whitney and Hamilton Standard	▸ Comprehensive transitional services including training for managers in layoff notification and intensive basic readjustment services for all participants ▸ On and off-site skills training ▸ Customer-driven program with wide range of service options	▸ Enrolled over 3,500 participants between June 1993 and October 1995 ▸ Provided skills training to 1,615 participants ▸ Placed 89% of participants (not counting recalls) in adverse labor market conditions
South Bay Aerospace Network South Bay Private Industry Council Southern California	Assist laid-off aerospace workers to find replacement jobs	Dislocated defense aerospace workers in Los Angeles area	▸ Implementing regional service delivery approach encompassing 16 SDAs and 116 vendors ▸ Using vouchers and customer choice to improve quality and delivery of services	▸ Approximately 500 workers enrolled by end of 1995 ▸ Too early to measure outcomes
California Community College Economic Development Network (ED>Net) California	▸ Upgrade skills of incumbent and laid-off defense workers ▸ Meet needs of emerging businesses for qualified labor	▸ At-risk and dislocated defense workers in California	▸ Builds capacity of network of community colleges to meet training needs of workers ▸ Funded by the Department of Defense (DOD) ▸ Targets three "emerging" industries	Building community college capacity to train workers in: ▸ Small Business and International trade ▸ Advanced Transportation ▸ Environmental Technologies
"Winning Individuals Need Guidance and Support" (WINGS) Northern Cook County Private Industry Council Glenview, Illinois	Assist laid-off civilians to find replacement jobs	Civilians laid-off from Glenview Naval Air Station	▸ One-stop career center ▸ Use of vouchers ▸ Effective involvement of Labor-Management Committee in planning services	▸ Served 169 workers by end of 1995 (out of planned target of 220 by May 1996) ▸ Of 61 terminees, placed 53 (93%)
Grissom "SPIRIT" Center, Grissom Air Force Base Northern-Central Indiana Private Industry Council Peru, Indiana	Assist laid-off civilians to find replacement jobs	Civilians laid-off from Grissom Air Force Base	▸ Innovative service delivery arrangement emphasizing Total Quality Management (TQM) principles ▸ Provides training based on SCANS	▸ Enrolled 92 participants ▸ Provided skills training to 70 participants ▸ Of 15 terminees, placed three

PROVIDING INDIVIDUALIZED SERVICES TO INCREASE GENERAL EMPLOYABILITY

The four demonstration projects employing this strategy helped workers with marketable skills find jobs in non-defense occupations and industries by providing relatively low cost support in preparing resumes, assessing skills, setting career goals, learning how to search for jobs, and, when appropriate, short-term skills training.

For example, Operation StepOut in Tempe, Arizona sought to facilitate reemployment of female defense workers in "fast track jobs" by providing career counseling, skills assessment, and some job search assistance, in addition to educational seminars on gender barriers in the labor market. Project Earn in Titusville, Florida sought to reemploy dislocated defense workers from a single defense firm by providing basic job search support and short-term skills training. Planners did not foresee the need to provide long-term skills training to help these workers change careers. The Minnesota project sought to increase the employability of assembly line workers by providing basic skills and computer skills training.

SKILLS TRAINING OR UPGRADING FOR SPECIFIC OCCUPATIONS

The five projects using this strategy sought to prepare dislocated defense workers without marketable skills for new careers in growth or “niche” occupations by offering training for specific occupations selected to match defense workers’ skills and interests. The MilCert program in Clemson, South Carolina had a goal of helping separating military personnel start new careers as teachers. The IAM Project in Southern California expected to place former defense workers in occupations in the emerging "clean vehicle" industry. The goal of the San Diego project was to place workers in engineering and manufacturing jobs by providing them with training in Computer-Aided Three-Dimensional Interactive Application (CATIA) and HPWO skills, respectively.

PROVIDING SUPPORT FOR NEW BUSINESS START-UPS OR "SPIN-OFFS"

The two projects using this strategy in San Diego, California and Binghamton, New York, provided training, encouragement, and support to individuals interested in starting up or spinning off new business so that they could apply skills, technology, and/or products developed in defense-related employment to commercial settings.

Figure II-3

STRATEGIES TESTED BY THE DCA WORKER MOBILITY PROJECTS

Project	Services to Increase Employability	Training for Specific Occupations	Support for New Business Start-Ups or "Spin-Offs"
The Internationial Association of Machinists and Aerospace Workers (IAM) Project in Burbank, CA		✓	
The DCA Demonstration Project in San Diego, CA	✓	✓	✓
C3 in Binghamton, NY			✓
MilCert in Clemson, SC		✓	
Project Earn in Titusville, FL	✓		
Operation StepOut in Tempe, AZ	✓		
The Alternative Fuels Training Project in Dallas-Fort Worth, Texas		✓	
The DCA Demonstration Project in Minneapolis, MN	✓	✓	

GOALS AND OBJECTIVES AMONG THE SUPPLEMENTARY PROJECTS

The five supplementary projects also sought to reemploy dislocated defense workers, and their strategies were somewhat more homogenous than those of the DCA grantees. Four of the five sought to increase the general employability of their participants by providing a choice of job-search and skills-training options. One had selected three target occupational categories for which to provide training.

Figure II-4

STRATEGIES TESTED BY THE SUPPLEMENTARY PROJECTS

Project	Services to Increase Employability	Training for Specific Occupations	Support for New Business Start-Ups or "Spin-Offs"
ETI Career Transition Center in Hartford, CT	✓		
South Bay Aerospace Network in Los Angeles, CA	✓		
ED>Net in California		✓	
Northern Cook County Private Industry Council in Glenview, Illinois	✓		
Northern Central Indiana Private Industry Council in Peru, Indiana	✓		

RECRUITMENT AND SELECTION OF PARTICIPANTS

As a whole, the DCA projects targeted dislocated defense workers from (1) specific defense firms experiencing downsizing, (2) groups of firms, (3) the entire industry, and (4) closing bases. Figure II-5 shows the target group for each of the 8 DCA projects.[3] The experiences of the worker mobility demonstration projects revealed that whether the target group was military personnel, DOD civilian workers, or defense industry workers, participant recruitment and screening was a time-consuming and labor-intensive process. Most projects tended to overestimate the number of workers who would enroll in their programs, and had to devote far more time and resources to outreach and recruitment than they had anticipated.

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[3] Surprisingly, none of the DCA projects focused on serving civilian defense workers who had lost their jobs due to downsizing or closure of military facilities or bases. One project, Operation StepOut, included this population in its target group, but for reasons similar to those underlying this project's difficulties recruiting military personnel, it did not succeed in enrolling more than one or two civilian base workers.

Figure II-5

KEY FEATURES OF DCA WORKER MOBILITY PROJECTS: RECRUITMENT GOALS

Project	Military Personnel	Civilian DOD Base Workers	Defense Industry Workers
Project EARN in Titusville, FL			✓
Operation StepOut in Tempe, AZ	✓	✓	✓
MilCert in Clemson, SC	✓		
The Defense Conversion Adjustment (DCA) Demonstration Project in San Diego, CA			✓
C3 in Binghamton, NY			✓
The Alternative Fuels Training Project in Dallas-Fort Worth, TX			✓
The DCA Demonstration Project in Minneapolis, MN			✓
The International Association of Machinists and Aerospace Workers Project in Burbank, CA			✓

Project success in recruiting individuals from the intended target group depended heavily on factors both within their control and outside of their control. Some projects were more effective than others in reaching workers and informing them about available project services. Some offered services that seemed more likely to lead to good jobs, which helped convince potential participants to enroll.

PROJECTS TARGETING DISLOCATED DEFENSE INDUSTRY WORKERS

Most of the DCA projects targeted workers laid-off—or about to be laid-off—from downsizing defense firms. Five projects recruited workers laid-off from any local firm; two projects recruited workers laid-off from specific firms with which the project had close ties. Projects recruiting from the wider pool of dislocated workers rather than working closely with one firm sometimes had trouble meeting their enrollment goals, despite a significant investment of resources and time and an impressive array of outreach and recruitment strategies, including:

- Enrolling at-risk defense contractor employees prior to announcement of layoffs from one or more firms, sometimes by working closely with human resources divisions (Project Earn, Operation StepOut and Minneapolis).

- Participating in rapid response activities scheduled after large-scale layoffs are announced (Operation StepOut).

- Selecting appropriate applicants from the pool of existing Title III clients enrolled in local dislocated worker programs (Operation StepOut, San Diego, C3, Texas, and the IAM project).

- Contacting dislocated workers identified by corporations or through personal networks, or conducting media outreach (C3 and San Diego).

Some projects had selective recruitment goals and procedures. They needed to recruit and select participants who were interested in and had relevant experience and skills for the occupations in which training was offered or who had the capacity and tenacity to start a new business.[4] Rather than linking recruitment to individual rapid response efforts, these projects tended to conduct their own specialized outreach efforts and select appropriate candidates from the existing Title III participant pool in the local substate area.

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[4] The Clemson, South Carolina project serving separated military personnel was selective in recruiting individuals interested in teaching careers.

The primary factor underlying recruitment problems, especially if enrollment goals were based on predicted mass layoffs from specific firms or military bases, was the uncertainty that pervades layoff events. In the case of firms, managers often announce layoffs only to postpone or cancel them later. Programs try to design their intake and services to respond to anticipated layoffs, and are often caught offguard when the layoffs do not take place. The situation is even more difficult when the precipitating event is a facility closure. The two supplementary projects we studied planned for layoffs that were supposed to occur according to a fixed schedule, but the schedule turned out to not be fixed at all. Layoffs at both Grissom Air Force Base and Glenview Naval Air Station were neither as large or as immediate as the programs serving the facilities had anticipated.

PROJECTS TARGETING SEPARATED MILITARY PERSONNEL

Both projects that planned to recruit separated military personnel encountered serious enrollment problems. One project (Operation StepOut) gave up trying to reach this target population, and the other (MilCert) expanded its recruitment campaign first nationwide and then worldwide using public media in an attempt to fulfill its enrollment goals. Both projects ultimately failed to recruit very many military personnel, in large part because the military runs its own extensive transition assistance program for its personnel.

RECRUITMENT AND SELECTION AMONG THE SUPPLEMENTARY PROJECTS

The experiences of the DCA projects in defining target groups and conducting outreach and recruitment activities are reflected in the experiences of the supplementary projects.

Of the five supplementary projects we studied, two served civilians who had lost their jobs due to the closure of a military facility, one served laid-off employees from two defense firms, and the remaining two targeted workers dislocated from the defense industry in California. The project serving two specific firms had no trouble enrolling participants, and served over 3,500 individuals in about 2.5 years. The two projects serving civilian base workers experienced some difficulties enrolling participants, due in large part to delays in the closure schedule, but also because potential participants seemed to find employment without assistance. The fourth project, drawing from a pool of dislocated defense workers in the heavily affected area of Southern California, encountered similar recruitment problems. Little is known about the number of students taking courses offered by ED>Net, the fifth supplementary project, but active recruitment was never a focus for this project.

Figure II-6

KEY FEATURES OF SUPPLEMENTARY WORKER MOBILITY PROJECTS:

RECRUITMENT GOALS

Project	Military Personnel	Civilian DOD Base Workers	Defense Industry Workers
ETI Career Transition Center			✔
South Bay Aerospace Network			✔
ED>Net in California		✔	✔
Northern Cook County Private Industry Council in Illinois		✔	
Northern Central Indiana Private Industry Council in Indiana		✔	

ORGANIZATIONAL ROLES

One goal of the DCA projects was to experiment with different organizational structures and roles to improve program effectiveness. A wide range of organizations -- including states, Title III substate grantees, employers, employer associations, unions and universities -- were eligible to apply for demonstration funds. In addition, demonstration applicants were required to describe in their proposals how they would coordinate with other agencies and institutions involved in defense conversion and economic development activities related to the demonstration project goals. Figure 2.7 summarizes the different organizational features of the worker mobility projects.

Figure II-7

KEY FEATURES OF DCA WORKER MOBILITY PROJECTS:
LEAD AGENCIES AND PARTNERSHIPS

Project	Title III Substate Areas or State-Level JTPA entity	Universities or Colleges	Unions	Employers	Other public agencies
International Association of Machinists and Aerospace Workers Burbank, CA	✓		✓*	✓	
Consortium and Private Industry Council San Diego, CA	✓*	✓			
Center for Commercial Competitiveness Binghamton, NY		✓*			
MilCert Clemson, SC		✓*			✓
Project EARN Titusville, FL		✓*		✓	
StepOut Tempe, AZ		✓*			✓
The Alternative Fuels Training Project, TX	✓				✓*
Minnesota Department of Jobs, MN			✓*	✓	

* Indicates lead agency.

The organization of the funded worker mobility projects deviated in two ways from standard Title III organizational arrangements. First, with one exception, the agencies or organizations with lead administrative responsibilities for the worker mobility projects were not Title III substate entities.

The lead program operators included four institutions of higher education (Operation StepOut, MilCert, C3 and Project Earn), two labor unions (IAM and the Minneapolis project), one state-level agency in transportation (The Alternative Fuels Training project) and one Job Training Partnership Act (JTPA) SDA/substate area (San Diego project). Only two of these program operators (Project Earn and the San Diego project) had previous experience operating Title III programs for dislocated workers.

While this shift in organizational roles and responsibilities enabled demonstration program operators to identify and develop new and innovative retraining and re-employment opportunities for dislocated defense workers, it may also have hindered the projects' ability to plan for the full range of dislocated workers' needs. Without previous experience serving this target population, some demonstration projects were not aware of, for example, the potential need for basic readjustment services, including crisis adjustment services, nor of the need for supportive services and financial support during training.

In the projects where the Title III substate area was not the demonstration grantee, the Economic Dislocation and Worker Adjustment Assistance Act (EDWAA) service delivery system was involved in the demonstration to differing degrees. In one project (IAM) the local Private Industry Council was an active partner in the demonstration, responsible for identifying appropriate demonstration participants (from the local pool of Title III clients) and addressing participants' basic readjustment and supportive service needs during training, using Title III funds. The Alternative Fuels Training project also relied on several substate areas for referrals. In the other projects, substate areas did not play an active role in demonstration operations.

In some cases, demonstration projects ended up duplicating services that were available from the local employment and training agency. For example, the C3 project in Binghamton, New York was operated by a non-profit organization with strong input and support from government, industry, and academia. C3 was responsible for all aspects of project operations. This organization was housed at the Binghamton campus of the State University of New York, which was the official demonstration grantee. Perhaps because of the project's relative isolation at the University, staff were unaware that the local SDA provided an entrepreneurial training program for dislocated workers.

The second way the organization of the projects deviated from the standard Title III organizational arrangements was that partnerships or collaborations of several organizations were involved in designing and delivering project services. These partnerships included, for example, a labor union and a Private Industry Council (in Burbank, California); a partnership of private industry, academia, and economic development agencies (in Binghamton, New York) and a state agency, a community college and SDAs (in Texas). At their best, these partnerships helped projects identify and coordinate the needs of dislocated workers and private industry, and link these needs with the resources available from educational institutions and economic development agencies.

The five supplementary projects reflected similar variations in the type of organization and organizational partnerships leading the DCA projects. Three of the supplementary projects were led by substate areas and one of these involved a consortium of 16 SDAs. One project was led by a private, for-profit service provider with many years experience providing services to dislocated workers. The fifth project involved a network of colleges providing courses, funded and administered by state and federal-level agencies.

Figure II-8

KEY FEATURES OF SUPPLEMENTARY WORKER MOBILITY PROJECTS: LEAD AGENCIES AND PARTNERSHIPS

Project	Title III Substate Areas or State-Level JTPA entity	Universities or Colleges	Unions/ Employers	Other
ETI Career Transition Center, CT			✓	✓*
South Bay Aerospace Network, CA	✓*			✓
ED>Net, CA		✓*	✓	✓
Northern Cook County Private Industry Council, IL	✓*			
Northern Central Indiana Private Industry Council	✓*			

* Indicates Lead Agency.

KEY FEATURES AND SERVICES

Among the core elements of responsive dislocated worker services are (1) basic readjustment services that address the trauma of dislocation, provide information about re-employment opportunities, and provide training on effective job search strategies and techniques; (2) supportive services as needed to enable participants to complete other services successfully; and (3) retraining services that address participants' needs for basic skills remediation, skills enhancement, and training in new occupational skills[5]. Although not all participants require all services, past studies have shown that projects need to have the capacity to provide an appropriate mix of services sufficient to meet the needs of the target population. Figure II-9 summarizes the different service mixes offered by the worker mobility projects.

Figure II-9

KEY FEATURES OF WORKER MOBILITY PROJECTS: SERVICES

Project	Basic Readjustment Services	Support Services	Skills Training		
			General	Specific Occupations	Entre-preneurial
IAM Burbank, CA	✔		✔	✔	
Consortium and PIC San Diego, CA	✔	✔	✔	✔	✔
Center for Commercial Competitiveness Binghamton, NY					✔
MilCert Clemson, SC	✔			✔	
Project EARN Titusville, FL	✔		✔		
StepOut Tempe, AZ	✔				
The Alternative Fuels Training Project, TX	✔	✔		✔	
Minnesota Department of Jobs, MN			✔	✔	

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[5] *Study of the Implementation of the Economic Dislocation and Worker Adjustment Assistance Act -- Phase II: Responsiveness of Services*, Social Policy Research Associates, Berkeley Planning Associates, SRI International, DOL Research and Evaluation Report Series 93-A, 1993, p. I-8.

Rather than offering participants a mix of basic readjustment and retraining services, as described above, several worker mobility projects tended to emphasize only one or the other of these types of services. Typically, these were those projects led by organizations inexperienced in serving dislocated workers.

BASIC READJUSTMENT SERVICES

Although most of the projects offered at least one service normally recognized as a basic readjustment service, in comparison to the typical EDWAA project, most of these projects offered a rather narrow range of basic readjustment services that may not have adequately met the needs of the participants. A few projects recognized unmet needs partway through the project and tried to add components such as resume development and stress counseling. Furthermore, although we had hoped to see examples of basic readjustment curricula tailored to the specific transition from defense-related to commercial employment, when projects used basic readjustment curricula they tended to be identical to those offered to the general dislocated worker population.

SUPPORTIVE SERVICES

None of the worker mobility projects planned for the delivery of extensive supportive services or needs-related payments. Once project operations got underway, many discovered that their participants needed this support to sustain their participation in the programs. Some began to provide this service. The entrepreneurial training project in Binghamton, N.Y. provided some needs-based payments, the Alternative Fuels Training project purchased tools for participants and Operation StepOut reimbursed participants for transportation and child care costs.

Several other projects (IAM Project, San Diego DCA Project) piggy-backed on supportive services provided by the substate area using regular Title III funds. The remaining projects anticipated that participants would be re-employed quickly or that funds would be available from some other source to cover financial expenses. Participants in Project Earn, it turned out, needed far more intensive and long-term training than planners had anticipated, and the lack of supportive services for these workers became a serious barrier.

OCCUPATIONAL SKILLS TRAINING FOR INCREASED GENERAL EMPLOYABILITY

Four of the DCA projects designed programs that were intended to help workers find replacement jobs with employers in a variety of sectors by providing basic readjustment and skills enhancement training. They did this either by offering an array of training options and then letting the participants make a "guided" choice, or by offering a course in a general skill deemed to be in demand by many employers. The San Diego and Project Earn projects provided relatively short-term training. The two skills enhancement curricula used in San Diego, California provided training that lasted only one month and included only about 80 hours of training in courses designed to help participants transfer their existing technical skills to non-defense employment. To assist in this transition, one curriculum was designed to prepare participants for the demands of high productivity, high quality, and low cost production in the commercial manufacturing sector.

Retraining available to participants in Project EARN in Titusville, Florida was also limited to short-term training, because of the dollar limit placed on approvable training costs (limited to an average of $500 per participant). If participants in this program wanted to continue in training for a longer period, they had to do so at their own expense, or apply for enrollment in the regular Title III program.

None of these projects could demonstrate extraordinary effectiveness in placing their participants. Their inability to do so may, for at least two of the projects, be due to the projects' failure to recognize the harsh realities of their local labor markets. Both in Titusville and in San Diego, the labor market was saturated with workers with high skills and jobs for these workers were very scarce. To become reemployed, workers in these areas would have needed more intensive skills training to prepare them for new or related careers in the commercial sector.

OCCUPATIONAL SKILLS TRAINING FOR SPECIFIC, "NICHE" OCCUPATIONS

Five DCA projects provided skills training to prepare participants for jobs in specific occupational categories. These highly innovative projects were the IAM Project in Burbank, California; MilCert in Clemson, South Carolina; Alternative Fuels Training Project in Dallas-Ft.Worth, Texas; the San Diego Project; and the Minnesota Project. While each of the designs of these projects seemed to have great potential because they were developed to ensure that workers going through training would have good jobs waiting for them at the end, none of the projects achieved particularly impressive outcomes. Despite the disappointing results of these three projects, the experience of the supplementary project ED>Net shows the continuing promise of attempting to link employment and training programs to state or regional economic development initiatives.

The IAM project worked with a panel of several employers to first develop a training curriculum that met the needs of the employers, and then place program participants in jobs with these same employers. The curriculum for this training program was in prototype design and fabrication using composite materials. Unfortunately, as the next section summarizing outcomes shows, by the time workers were selected and trained, the employers who had intended to hire them were unable to do so, due in large part to unforeseen downsizing.[6]

The Texas Project offered dislocated workers training in alternate fuels automotive repair. The initial concept seemed very solid. Planners predicted that a demand for workers with these skills would materialize once anti-pollution legislation passed in Texas and there would be a large pool of appropriate workers who would be willing and able to participate in the training. Unfortunately, neither of these key assumptions came true. The project also suffered from some implementation problems that could have been avoided.

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[6] Initially the design called for the trainer -- a start-up firm interested in manufacturing lightweight bodies for electric vehicles -- to also employ the participants. Because the demand for electrical vehicles was not as high as expected due to legislative changes, the project ended up establishing a panel of employers who would hire the program terminees.

The MilCert project sought to help fill South Carolina's urgent need for elementary school teachers by assisting separating military personnel enter teaching careers and take jobs in high-demand subjects in South Carolina's elementary schools. The project provided extensive counseling and assistance to prospective participants, usually by telephone. Once enrolled, participants attended regular classes at Clemson's College of Education to fulfill the training requirements for the state's teaching credential. Although demonstration funds were used to cover three teaching positions in the College of Education, project participants still had to pay tuition. For a variety of reasons, this project was unable to recruit more than a handful of participants, and could not demonstrate the effectiveness of this approach.

ENTREPRENEURSHIP TRAINING AND SUPPORT

Two projects were designed to encourage high technology entrepreneurship among dislocated defense workers with relatively high levels of technical, managerial or professional skills.

Participants in the San Diego CONNECT project received a combination of classroom instruction in skills needed for successful entrepreneurship hands-on practice developing products, marketing ideas and presenting them to others, and individual consultations with business experts on specific aspects of planned business ventures. The other project (C3 in Binghamton, New York) had participants form self-directed work teams, which functioned as training laboratories for high performance workplace skills and as the organizational format for team-based entrepreneurial activities.

FEATURES AND SERVICES OF THE SUPPLEMENTARY PROJECTS

All but one of the supplementary projects offered basic readjustment services, but only one offered significant supportive services to their participants. The three SDA-operated projects offered the standard array of assessment, career counseling and job search assistance. The project in

Connecticut was notable in the quality and intensity of these upfront services, and included substantial supportive services such as reimbursement for health insurance premiums and relocation assistance.

Four of the supplementary projects studied offered services designed to increase the general employability of their participants by providing them with an opportunity to make their own choices, rather than providing services geared to employment in specific "niche occupations." In this sense, they were, on the whole, less innovative than the DCA projects. One exception to this pattern was the supplementary project ED>Net. This DOD-funded, statewide initiative was launched to support California's policy to encourage growth in certain sectors such as environmental technology, foreign trade, and small businesses. Rather than create a new service delivery system to provide training in these occupations, the extensive network of community colleges, already attended by thousands of unemployed people, was enhanced with the project funds to provide additional classes in the specified topic areas. Because ED>Net is linked to specific economic development goals, it seems more likely to succeed than projects that rely on local employers or professional organizations for indications of which jobs are likely to "grow" in the future. On the other hand, it is still unknown whether the anticipated jobs will materialize in enough strength and in time to absorb the students taking the courses.

Figure II-10

KEY FEATURES OF SUPPLEMENTARY WORKER MOBILITY PROJECTS: SERVICES

Project	Basic Readjustment Services	Support Services	Skills Training		
			General	Specific Occupations	Entre-preneurial
ETI Career Transition Center, CT	✓	✓	✓		
South Bay Aerospace Network, CA	✓	✓	✓		
ED>Net, CA				✓	
Northern Cook County Private Industry Council, IL	✓	✓	✓		
Northern Central Indiana Private Industry Council	✓	✓	✓		

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OUTCOMES

The worker mobility projects were not notably successful in achieving their objectives of placing participants in high-quality jobs. In fact, if these projects were to be evaluated on the basis of their employment-related outcomes alone, most would receive rather low marks, particularly when compared to regular Title III programs.[7] The following are some of the employment-related results of the worker mobility projects:

The IAM project in Burbank enrolled approximately 50 workers in two courses. Although exact figures are not available, anecdotal evidence suggests that less than half of these found work afterwards, and even fewer found jobs related to the training they had received.

The San Diego project tested two worker mobility strategies. The one that enrolled dislocated workers in TQM and CATIA short-term training courses ultimately placed most of the trainees, but only after great effort and many months. It was not at all clear that these workers were more employable than their counterparts who had not received the training.

Of the nineteen individuals who participated in the CONNECT high tech entrepreneurial training program in San Diego (which completed its formal training curriculum in December 1993), 18 were still pursuing their business plans in May 1994. Five individuals had incorporated their own businesses and several of these had started business operations and were generating business revenues. An additional two individuals were negotiating with existing firms on joint product development or licensing of proprietary products developed by the project participants, and a third had joined an existing company as a partner. Of the remaining nine participants still working on the development of their business plans, six were working on their businesses full-time, two were also employed at other jobs, and one had self-employment earnings from a consulting business while he pursued his business plan.

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[7] An audit of Title III programs conducted by Office of the Inspector General (OIG) using PY1991 data showed that 84% of Title III participants were employed within three years of participating in Title III programs. However, only 44% of these workers were earning as much as they did at their layoff jobs. *(Audit of JTPA Title III Retraining Services Program Year 1991.)*

Only ten MilCert students had completed the course work for their teaching credentials and entered paid internships in South Carolina elementary schools as the project wound down in its third year. Two left teaching shortly after starting the internships.

It is difficult to assess Operation StepOut's outcomes. According to the project's own analysis of extensive demographic, participation, and follow-up data collected on its approximately 400 participants, Operation StepOut did not appear to appreciably affect employment outcomes for its participants. Many of the participants were employed at enrollment in the program, and were still employed in the same jobs months after leaving the program. Of those who were laid-off, about half were still unemployed months later. Followup data indicated that many of these unemployed women were not actively seeking work. On the other hand, pre- and post-program measures of StepOut participants' self-esteem, "career awareness", and other psychological traits revealed that the program had statistically significant positive impacts, an outcome highly valued by project staff.

The Alternative Fuels Training project enrolled 125 participants, significantly fewer than expected, and ultimately placed 94 of them in jobs. Unfortunately, only 24 of these jobs were related to the training that participants had received.

C3 in Binghamton did not result in as many linkages between teams of dislocated workers and firms in the area as had been hoped. A total of 66 individuals were enrolled in the C3 project, but only 34 individuals completed the program in December 1993. Of the approximately 20 business ideas that had been worked on by project teams, about six were still being pursued in some fashion by about ten participants in September 1994. Two projects had led to earnings for project participants. One project team had secured grants from two public agencies to provide technical assistance to small businesses. The grants were awarded to C3 and led to the creation of two new jobs on C3 staff, at least one of which was filled by a project participant. Another project sponsored by a local utility company was expected to lead to a contract to develop a training program for "cherry picker" operators using simulation methods.

Project Earn in hard-hit Titusville, Florida placed a little over half of the 199 workers who completed the program. Although the placement rate was well below the project's goals, the quality of the jobs was quite good. On average, program participants found jobs that paid 81% of their pre-layoff wage. Considering that defense workers on average may be paid as much as 25% over their market value, this was an impressive achievement in an area where good jobs were few and far between.

To a large extent, the supplementary projects were selected on the basis of their successes: we specifically looked for projects that not only had innovative elements in their design and operation, but also could demonstrate at least some measure of effectiveness in placing program participants in good jobs. It is therefore not entirely "fair" to compare the outcomes of the supplementary projects with the DCA worker mobility projects, which were selected on the basis of their innovativeness in addition to their likelihood of succeeding in placing participants in jobs. Nevertheless, the supplementary projects as a whole can provide a useful benchmark to assess the DCA projects' effectiveness: if we were unable to locate any employment and training programs that successfully placed former defense workers in good jobs, this would indicate that the DCA projects' difficulties in achieving their objectives might have been more a function of the difficulties in serving this particular population than of particular design flaws or operational problems.

Four of the five supplementary projects were designed to place participants in jobs. It is too early to say whether one of these (Aerospace Network) is to be successful in this regard. The project is still in its implementation phase. Of the three remaining, two projects (ETI in East Hartford, Connecticut and the PIC in Glenview, Illinois) had very high placement rates and the PIC in Peru, Indiana did not.

ETI placed 89% of its 1,615 participants in jobs. This project's success cannot be attributed to working with more employable defense workers or being in a favorable labor market, for neither factor was true. Much of the success of this project can be attributed to the fact that it had a well-run one-stop center which worked closely with the two target firms and offered well-funded, intensive services.

The PIC in Glenview, Illinois served approximately 200 civilian workers laid off from the Glenview Naval Air Station. The project offered an array of skills training, also in a one-stop environment. Its placement rate of 93% must in part be attributed to favorable local labor market conditions, but also to the high quality of the services offered.

Thus, when compared with the supplementary projects and with the Title III programs in general, the DCA worker mobility projects as a whole did not succeed in operating programs that resulted in better placement rates or better jobs. Perhaps the most important—if somewhat paradoxical—lesson provided by the DCA worker mobility projects was that they were *not* outstanding either in their design or outcomes. Despite a concerted effort to stimulate innovation in programs serving dislocated defense workers, these projects generally failed to improve upon the existing system. This suggests that the existing system may be more effective than is currently and commonly acknowledged.

Despite the disappointing results of the DCA worker mobility projects, these experiments contain a rich set of lessons that may be useful for those designing and running other employment and training programs. The key cross-project findings presented in the next chapter may be particularly valuable during this era of workforce development policy changes and reform.

CHAPTER III

KEY FINDINGS

III. KEY FINDINGS

INTRODUCTION

The worker mobility projects attempted to respond to the needs of individuals dislocated as a result of cutbacks and layoffs among defense industry workers, military service personnel and civilian Department of Defense (DOD) employees at military facilities. Projects existed to test innovative strategies for providing services to help these individuals achieve high quality reemployment outcomes by identifying and building on their transferable skills.

The worker mobility projects turned out to be, on the whole, less innovative and less successful than the projects categorized as community planning and dislocation aversion projects. This is somewhat ironic, considering that running employment and training programs has been the responsibility of Department of Labor-funded programs for many years. One possible explanation for the relatively low level of innovation in these projects and the dearth of strategies that are more effective than those of existing employment and training programs is that existing employment and training programs are already operating at a relatively acceptable level. A second possible explanation is that the needs and backgrounds of dislocated defense workers turn out be quite similar to the needs of most dislocated workers, with only a few exceptions. The current substate service area system, which has handled the employment and training needs of this country's unemployed for a decade, appears to have responded quite adequately to the additional demands that defense downsizing has placed on it.

In this chapter we present the key findings from our evaluation of these projects' experiences as they planned and delivered employment and training services. These findings relate particular aspects of project design and implementation to project effectiveness and success. Findings are organized by the following topics:

- Project Goals and Objectives
- Organizational Roles
- Recruitment and Selection of Participants
- Design and Delivery of Non-Training Services
- Design and Delivery of Training Services

We conclude the chapter with a discussion of strategies for the successful design and operation of programs intended to serve the employment and training needs of dislocated defense workers and other dislocated workers.

PROJECT GOALS AND OBJECTIVES

The Defense Conversion Adjustment (DCA) grantees were all required to include specific goals and objectives in their grant proposals. Some grantees took this assignment seriously, and spent substantial resources ensuring that their stated goals were clear, feasible, and realistic. Others did not.

Importance of a Unified Goal

While most of the worker mobility projects had one clear mission—to hasten the reemployment of dislocated defense workers in jobs of the highest possible quality—several DCA projects were simultaneously working to achieve another primary goal: either to avert layoffs by working with at-risk defense firms, or to contribute to a community-wide planning process in response to the closure of a military facility. Three DCA projects had such multiple goals: the Alliant Techsystems project in Minneapolis, the San Diego Defense Conversion Adjustment project, and the

International Association of Machinists and Aerospace Workers (IAM) project in the Los Angeles area. We found that all three projects had difficulties fully achieving all their objectives.

Finding #1: Projects that attempted both dislocation aversion strategies (helping at-risk firms stabilize and avoid layoffs) and worker mobility strategies (assisting laid-off workers in becoming reemployed) were generally unable to clearly focus on both simultaneously. To focus their efforts most effectively, projects needed a single, overall goal.

For example, the Minnesota Defense Conversion Adjustment Demonstration Project, conducted by the Teamsters Service Bureau in Minneapolis, supported a variety of services for the at-risk employees at Alliant Techsystems, a munitions manufacturer. These services included occupational skills upgrading for employed machinists to help the company strengthen its competitive edge in the defense market, and basic skills training for other employed workers likely to be laid off. Thus, on the one hand the project sought to avert layoffs at this firm, and on the other, it sought to increase the employability of some workers who were least likely to find good jobs in the event that they were laid off. The need for project operators to focus on both objectives may be one reason why the worker mobility efforts seemed inadequate in this project. Some essential components of successful worker mobility projects were neglected, such as a thorough assessment of workers' skills, aptitudes, and career goals, the provision of services to meet individual employment objectives, and the provision of enough training to "make a difference" in workers' employability.

The DCA project in Burbank, California, conducted by the International Association of Machinists and Aerospace Workers (IAM) also divided its efforts between attempting to avert layoffs by a group of at-risk firms and helping laid-off workers find jobs. The former effort so preoccupied the project that the latter did not even get underway until the last year of the project. When Hub Engineering, the "virtual company" that was to implement the worker mobility strategy, finally began to recruit employers and train workers to fill vacancies identified by these employers, the IAM project was winding down and the effort met with limited success.

Importance of Realistic Project Goals and Objectives

Several projects formulated clear goals and objectives in their original proposals, but included some goals that were highly unrealistic and probably identifiably so even before the projects got underway. These projects, therefore, were "doomed" to serious problems from the beginning, and could have benefitted from early intervention and assistance from proposal reviewers in developing reasonable goals that were consistent with the national demonstration's goals. In some cases, the Department of Labor (DOL) project officers worked with projects at the outset to refine objectives, making them clearer, more realistic, or more in line with demonstration-wide goals. In other cases, projects had to submit modification requests during the course of the demonstration to change their objectives (often lowering the expected number of enrollees). Other projects did not submit a formal application to modify their goals, and in the end were held accountable for unrealistic outcomes. An early, critical review of the objectives by project officers and planners might have prevented this type of outcome.

Finding #2: The most successful projects were those with realistic objectives that reflected well-documented assessments of such factors as local labor market conditions and the existence of other programs and services in the community serving the targeted population.

Operation StepOut in Tempe, Arizona, for example, was a highly ambitious project that set very high societal-level goals for itself, while planning services that were insufficient to meet its more modest reemployment goals. One goal set by project planners was to facilitate in not only the reemployment of dislocated female defense workers, but to help these workers find high-level, managerial positions in commercial companies. Once employed in managerial positions these women would then be positioned to transform the "sexist" culture of the workplace while enjoying lucrative, upwardly mobile careers. The proposal suggests that Operation StepOut would in this way change the economic structure of the community. Even if the project had achieved the more modest goal of assisting laid-off workers to find "fast track jobs," it seemed unlikely it would have an effect on corporate culture by simply placing participants in strategic positions within companies.

The C3 project in Binghamton, New York, had similarly ambitious goals. This project sought to "revitalize the economy" in an entire region of the state, primarily by linking dislocated defense workers with at-risk firms to provide services needed by these firms to expand, thrive and develop new commercial ventures. In the end, this project had to abandon this expansive mission, shifting gradually towards designing and operating a fairly standard entrepreneurial training program for dislocated defense workers instead.

Grounding Goals in Known Labor Market Conditions

The most serious design flaw observed across the worker projects as a whole, and the reason why some goals, in retrospect, seemed unrealistic, was that planners were insufficiently aware of local, and in some cases, national labor market conditions. A number of projects were unable to pay adequate attention to generating good measures of critical circumstances, such as the size and characteristics of their target group or the availability of target jobs. A few projects' efforts to survey employers or workers and perform analyses of the local economy yielded inaccurate, outdated, or insufficient data.

Finding #3: **Conducting careful research of the local economic and labor market conditions, including assessing the number of potential applicants, the hiring needs of local employers, and the trends in growth occupations and their skills levels, is a difficult but important design task. The unfortunate result of inadequate information was that many projects were ultimately unable to offer a fair test of their strategies due to lack of sufficient enrollments.**

The Alternative Fuels Training Program, conducted by the Texas Railroad Commission in the Dallas-Ft. Worth area in Texas, initially advertised that it would prepare participants for jobs paying $12 to $17 per hour. Dislocated defense workers applied to and entered the program with that expectation (sometimes knowing very little else about the training or the targeted jobs). The Texas Railroad Commission, the DCA grantee, had based these wage estimates on a 1993 survey of managers of public vehicle fleets that had begun converting to alternative fuels. Unfortunately, these estimates proved to be overly optimistic. Project participants were unable to find jobs paying in the targeted $8-to-$12-per-hour range.[1]

The Defense Conversion Adjustment Project in San Diego, California and Project Earn in Titusville, Florida underestimated the devastating effects of the defense cutbacks on their local economies and were too optimistic about the jobs that would be available to participants without long-term skills retraining. Both in Florida's "space coast" economy and San Diego's aerospace-dominated economy, laid-off aerospace engineers and production workers were "a dime a dozen," and few new jobs were available, even to participants who had upgraded their skills by completing one or two training classes.

ORGANIZATIONAL ROLES

As described in Chapter II, the worker mobility projects in this study were overseen and operated by a wide variety of organizations and consortia of organizations, including Job Training Partnership Act (JTPA) administrative entities, universities, unions, private for-profit service providers, and downsizing firms themselves. It is interesting to observe that the most innovative and apparently successful program was not run by a DCA or even a JTPA administrative entity, but a private, for-profit corporation with extensive experience in providing training and employment services to dislocated workers. The least successful worker mobility projects were operated by organizations such as universities that had little or no experience planning or operating transitional services for dislocated workers.

Experience Working With Dislocated Workers

Some of the most innovative worker mobility projects were those that involved a partnership between a JTPA-funded organization with a long track record of serving dislocated workers and another organization with specific knowledge or interest in either the needs of the target group or the occupations for which the workers were to be trained.

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[1] To address this problem, the project added a one-day orientation to the project, beginning with the second cohort of trainees, to ensure that participants had a more realistic view of employment opportunities in this field.

Finding #4: Active involvement of agencies with significant experience operating employment and training programs was highly correlated with project success. First-class employment and training services can be delivered quite competently by non-JTPA funded organizations that have such experience.

One of the most successful worker mobility projects we observed was the Employment & Training Institute (ETI) Career Transition Center, which served laid-off workers from two defense firms in Connecticut. Run by a for-profit service vendor, under contract with the state of Connecticut, this center operated an impressive array of services in a highly professional, efficient, but customer-friendly environment. It offered a long menu of on-site, individualized, customer-driven services and linkages to a rich array of training options available from public and private educational institutions. It is difficult to know whether the successes of the ETI project were due to its organizational type (private, for-profit), the generous public funding it received (over twelve million dollars in total) or some other factor. Notably, ETI had no relationship with the local SDA, although the project reported to the state employment and training department.

On the other hand, most projects that failed to establish a close relationship with local JTPA-funded programs often had problems, the most common of which was related to outreach and recruitment. For example, although Project Earn coordinated individual client referrals with the local Economic Dislocation and Worker Adjustment Assistance Act (EDWAA) substate grantee, relations between the DCA project and the regular EDWAA program were somewhat strained. During the demonstration period, the substate area was in the process of developing its own in-house capacity to serve dislocated workers. Although the substate grantee welcomed the infusion of DCA demonstration funds in the area to address the need for services among dislocated defense workers, it would have preferred to administer this project itself.

The Alternative Fuels Training Project in Texas depended on referrals from the five EDWAA substate areas in the Dallas-Fort Worth area to provide participants for special demonstration classes at two local community colleges. The substate areas were not as forthcoming as expected in referring interested and appropriate individuals to fill subsequent training cycles to reach the project's goal of 300 participants. In the end, only two SDAs referred any workers, and these arrived with widely disparate skills and expectations. Communication broke down quickly between the project partners, causing even more operational challenges.

In contrast, in San Diego, where the EDWAA substate grantee was the DCA demonstration grant recipient, the demonstration-funded activities were used to supplement the existing range of services available to Title III participants. This project was able to match dislocated defense workers to demonstration services by screening the existing pool of EDWAA enrollees for appropriate project participants as well as by describing project components to newly laid-off workers at on-site rapid response worker orientations provided by substate area staff.

Building on Existing Services

Failure to work with local employment and training organizations or DOD-funded transitional services often caused duplication of services. In addition to being wasteful, projects that offered identical or similar services to those already available in the community had the effect of antagonizing other organizations, reducing the likelihood of finding ways to collaborate and complement each others' services, and creating unnecessary competition for participants.

Finding #5: Projects that carefully built on and complemented existing employment and training services were generally more effective than projects that tried to replace or compete with them.

The C3 project in Binghamton operated a program to assist dislocated defense workers start up new business ventures, often in teams. The classroom training, ties with local businesses, and other features of this program were highly similar to an entrepreneurial training program offered to dislocated workers by the local Title III program. C3 staff were apparently unaware that they were duplicating this program, accounting in part for their recruitment problems.

The MilCert Project in Clemson, South Carolina attempted to recruit participants for an ongoing teacher certification training program operated by Clemson University's College of

Education. Recruitment remained a serious challenge for this project throughout the demonstration period, as described in more detail below.[2] One explanation for the inability of this project to attract the expected number of participants was that another better known and established program (Troops to Teachers) offered similar assistance to separating military personnel interested in becoming teachers. Although MilCert offered more counseling and hand-holding than Troops to Teachers to facilitate the transition, as well as a paid internship instead of the traditional student teaching as the vehicle to give students in-class experience, MilCert ended up competing with Troops To Teachers for participants. And MilCert, unlike Troops, did not offer financial support for students while in training.

Operation StepOut identified a target population (women being laid off by defense contractors in the Phoenix area) that was virtually identical with that routinely served by the local PIC. Both programs had difficulty filling their "slots," and may even have competed for the same individuals.[3] When Operation StepOut attempted to replicate their model in nearby Tuscon the local SDA resisted cooperating with project staff (e.g., sharing their lists of dislocated workers) arguing that their program already provided the same services to at-risk and dislocated defense workers in the area.

Working With Organizations Outside of the Employment and Training Community

For projects providing training in emerging occupations, the involvement of organizations other than, or in addition to, Title III substate areas made it possible to identify promising occupations or new careers for dislocated defense workers and to develop or arrange high-quality training tailored to industry needs.

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[2] This project is scheduled to end in June 1996, but by the end of 1995 had not resolved its recruitment issues.

[3] A fleeting cooperation between the local PIC and Operation StepOut took place at one point when the Rapid Response Team referred several women to Operation StepOut. However, this was not repeated.

Finding #6: Projects that prepared workers for new careers benefited from the active involvement of key project partners with close organizational linkages to the occupations or industries targeted for the new careers. The benefit was greatest if these partnering organizations were as concerned with placement as they were with training.

Clemson University, the primary provider of teacher certification in South Carolina, was able to recognize that the maturity, leadership potential, and instructional experience of many departing military officers would make them effective classroom teachers and role models for children in South Carolina's schools. Clemson University's College of Education, which houses the DCA project, was also able to identify an unmet demand for primary and secondary school teachers in critical need subjects, including foreign languages, mathematics, science, and special education. However, project staff did not take full advantage of working with the state's educational institutions. Staff learned in the course of the demonstration that they needed to provide significantly more assistance to participants in locating intern positions in the schools than they had previously thought.

The Texas Railroad Commission, which developed the concept for and administers the Alternative Fuels Training Project in Texas, is the state agency responsible for regulating the oil and gas industry, including licensing the use of propane and liquid petroleum gas. As such, this agency was familiar with state and federal policies encouraging the use of alternative fuels for public and private vehicle fleets to promote clean air goals. The agency was able to identify an emerging demand for workers to support the expanded use of alternative fuels as fleet managers, conversion technicians, and maintenance technicians. Agency staff also had ties with a state technical college (Texas State Technical College at Waco) with the expertise to develop a curriculum in this area, and were familiar with various industry certification procedures that would help validate their proposed training program and make it attractive to employers. Although the expertise of these organizations in identifying skills and providing the training needed for these "niche occupations" was key, the organization had no experience assisting dislocated workers find jobs. Planners assumed that the jobs would be available, and graduates would easily find them without assistance. Thus, no resources were set aside to support job search assistance or job development. Eventually a job developer was hired specifically to find jobs for participants.

The San Diego project benefited from the involvement of a lead organization with particular expertise and a track record in supporting high-tech business development. The CONNECT program operated by the U.C. San Diego Extension had highly-trained staff with experience providing a range of business development and training services to the high-tech companies in the San Diego metropolitan area.

RECRUITMENT AND SELECTION OF PARTICIPANTS

Outreach and recruitment turned out to be the single greatest challenge for the DCA projects and for other programs serving dislocated defense workers. Most projects had difficulties enrolling as many participants as they expected. In most cases these projects had not conducted careful research of the local labor market and were therefore surprised when their target group seemed smaller than previously thought or had a different set of skills. But even projects that *had* conducted careful labor market analyses sometimes faced serious difficulties attracting the expected number or type of participants.

Forecasting the Size and Characteristics of the Target Population

Somewhat surprising was the finding that most projects seriously overestimated the number of individuals who would enroll in their programs. Defense downsizing was still a reality during the period most of the projects were operating, although signs of a slowing of the rate of dislocations and closures were beginning to be seen. At the same time, the economy was slowly improving in most of the projects' catchment areas, and workers seemed to be finding jobs on their own.

Finding #7: Many projects seriously overestimated the number of workers likely to need or want their services. The evaluation showed that the first step in designing an effective worker mobility project is to set reasonable enrollment goals and carefully define the target population.

Projects faced recruitment difficulties whether the target group was military officers, civilian base workers, or workers laid off by defense contractors. Two projects—MilCert and Operation StepOut—expected to enroll separating military officers. Operation StepOut planners had anticipated that women leaving military service due to the closing of a nearby airbase would be attracted to their program. However, the airbase closure was already complete by the time the project was funded, making it difficult to reach this target group. In the end only about five former base employees were enrolled.

The MilCert project planners also seriously overestimated the number of separating military officers likely to enroll in their program in Clemson, South Carolina. While a great number of individuals responded to the advertisements and other outreach efforts by the program (2,200), only a small fraction chose to pursue the program by sending in their transcripts to MilCert staff for an evaluation (524). Of these, only 32 enrolled in the University during the entire 30-month period of the contract. Even more disturbing was that only about ten participants had completed their teaching training by the end of the program, and not all of these began an internship.

Projects that were unable to enroll the expected number of civilian or defense industry workers included the Texas Project, the South Bay Aerospace Network, and programs serving both the Glenview, Illinois Naval Air Station and the Grissom Air Force Base in Peru, Indiana. Operation StepOut, although it eventually enrolled the targeted number of workers, had to expand its pool to include "at-risk" workers, in addition to dislocated workers, to do so.

Adjusting Outreach Strategies to Meet Changing Conditions

Even projects that thoroughly researched labor market conditions were sometimes unprepared for the "ups and downs" of the defense sector and occasional postponements of planned layoffs by both downsizing bases and contractors. Defense contractors often expected to lay off workers in a certain month or year, only to win another defense contract or acquire another company and find they could not only cancel layoff plans but even call back previously laid-off workers.

Layoffs at military facilities are also highly uncertain, playing havoc with carefully designed service arrangements. Dates for closures are often "moving targets" hotly debated in Washington, D.C., postponed, and sometimes even reversed. Even if firm closure dates are set, military human resource officers, like their counterparts among defense contractors, are often reluctant to share layoff information with outsiders, for fear of causing low morale in the workforce. These conditions sometimes render the best-laid plans obsolete by the time a service project gets underway.

Finding #8: Some projects set enrollment goals that were based on labor market conditions or base-closure schedules that changed in unforeseen ways over the course of the project. Because it was difficult to predict the timing and extent of layoffs and changes in labor market conditions, projects that had the flexibility to alter and adjust their outreach strategies and services were more responsive to real needs than those that were less flexible.

The Titusville, Florida project, serving displaced workers from McDonnel Douglas, had expected to assist several hundred workers who had already been laid off from the plant. But many had dispersed by the time the grant was awarded and the project was unable to enroll more than a handful. Ultimately, they met their enrollment goals with workers laid off in subsequent downsizing.

The Aerospace Network in Los Angeles also experienced fewer enrollees than they had expected, because many of the aerospace employers in the area had either completed their downsizing process by the time the project got underway, or had postponed major layoffs. This project has sought an extension of the period of performance to allow more time to recruit participants.

The PIC serving Glenview Naval Air Station base workers had a typical experience for PICs across the country working with downsizing bases. Many of the at-risk workers were transferred elsewhere, and those layoffs that actually occurred were fewer and later than expected. Enrollments in this program were slow and not likely to reach the targeted level by the end of the project.

Getting the Word Out to Workers in Denial

Another challenge faced by worker mobility projects, particularly those serving closing bases, was getting the word out to affected workers and convincing them to take advantage of the transitional services. Like many at-risk or dislocated workers, many defense workers believe, despite the handwriting on the wall, that they will either keep their old jobs or, if laid off, eventually be called back by their old employer. Base workers will often cling to the hope that the base will be taken off the Base Realignment and Closure Commission (BRAC) list, or the closure date will be postponed. Employment and training programs found that they often needed to launch aggressive and innovative outreach campaigns to bring eligible workers into their offices.

Finding #9: Even when in need of services, defense workers often are reluctant to accept assistance. Projects therefore had to create new and more aggressive outreach strategies to recruit members of this population.

Projects that targeted base workers found that locating offices on the base, or nearby if the base had already closed, was an important starting point to increase the likelihood that affected workers would drop by. Some projects, such as the one serving Grissom Air Force Base, successfully used a team of "peer counselors," base employees themselves, to get the word out to affected workers.

Projects serving laid-off workers from at-risk defense firms also had trouble learning of layoffs soon enough to provide effective assistance. Some projects found that locating their offices within or close to the firm(s) enhanced the program's visibility, facilitated communications with human resource officials, and increased their access to potential participants. The ETI Career Resource Center was located near one of the plants it served. The Titusville project had two service locations, one inside the McDonnel Douglas plant itself and one at a nearby community college campus. The project eventually closed the plant site as it began to serve more workers who were already laid off and reluctant to return to the old workplace.

Operation StepOut did not have the luxury of an on-site service center, and found it difficult to contact at-risk workers prior to layoff because defense firms were very reluctant to share layoff plans with project staff. The method that ultimately resulted in significant numbers of interested women contacting the project for more information turned out to be word of mouth among co-workers inside firms.

Both projects serving base workers and projects serving dislocated workers found that the involvement of the union in planning and recruiting for the project was critical. ETI worked closely with the union leaders. Projects serving base workers usually found the Labor-Management

Committees indispensable in getting the word out and building the trust needed to effectively recruit laid-off workers.

DESIGN AND DELIVERY OF NON-TRAINING SERVICES

As described in Chapter II, the projects studied in the worker mobility category offered a wide range of services designed to assist dislocated defense workers find new jobs as well as test new service delivery arrangements. Most projects offered a blend of "basic readjustment services" (e.g., career counseling, skills assessment, and job search assistance) and occupational skills training or retraining. Some projects emphasized one over the other. A challenge for all projects was to find the right mix of basic readjustment services and training for their particular target group.

We begin this section with a brief discussion of service delivery arrangements. We then turn to findings from the projects' experiences in designing and delivering basic readjustment services.

SERVICE DELIVERY ARRANGEMENTS

The typical model of service delivery for Title III programs is for an SDA to provide basic readjustment services directly to eligible workers. Once workers' skills, interests, and background have been assessed, they are sometimes referred to skills training services, usually provided by outside service providers. Job placement or job development is often provided by the SDA.

Improving and Enhancing the Traditional Job Training Program

Several of the projects studied experimented with variations on the traditional model of job training service delivery. We found that while aspects of the traditional model of service delivery can easily be improved upon, the basic arrangement used by SDAs appears to work well for this population, or at least as well as it does for other dislocated workers. It is interesting to note that none of the DCA grantees succeeded in developing an innovative model of service delivery that clearly improved on the traditional model. Examples of innovative service delivery models are drawn mainly from the supplementary projects.

Finding #10: The traditional model of service delivery that has evolved in Title III programs appears to be viable and effective for serving laid-off defense workers, especially when enhanced with improvements such as team-based staff, total quality management, customer-driven services, and other high performance workplace principles.

One of the key features of several successful worker mobility projects was their emphasis on the team-oriented approach to delivering services. Other principles of the high performance workplace, including continuous staff training, customer choice and customer satisfaction, and case management were also attempted. ETI was a particularly well-run model, incorporating many of these features. In addition, ETI managers insisted that their practice of "hiring the best and paying them well" (requiring all case managers to have at least a Masters degree in counseling or another related field) was key to their successes.

The PIC serving the Grissom base applied the same Total Quality Management (TQM) principles they had developed earlier in their regular services to other dislocated workers. The center was a one-stop, customer-driven resource set up to serve base workers. Although run by the North Central Indiana PIC, the center's staff was given a high degree of independence in making operational and administrative decisions around the design and delivery of services, which was part of the TQM "corporate philosophy" of the PIC. Staff were organized into teams, and encouraged to solve problems as a group. Staff also participated in many state-wide committees set up to improve the job training system throughout the state.

The experience of the Aerospace Network in the Los Angeles area as it prepared for a new, regional approach to delivering employment and training services, pointed to the importance of staff training. Without many hours of training in methods for communicating and coordinating with each other, staff argued, implementation of this unique, voucher-based, multi-SDA approach to providing seamless service delivery to thousands of dislocated aerospace workers would not have been feasible.

The most unique approach to service delivery was developed by the California Economic Development Network (ED>Net), a Department of Defense project and another supplementary project included in this study. ED>Net is an effort to build the capacity of community colleges in California to support the growth of the California economy by providing skills upgrading to dislocated workers in the defense sector. Although individual community colleges sometimes coordinate with local SDAs, this statewide initiative relies on the network of community colleges in the state of California as the primary vehicle to develop and deliver courses. Funds are used to enhance the ability of community colleges located in heavily affected areas to educate workers in skills needed for growing occupations, such as manufacturing electronic vehicles, environmental technology, international trade and alternative fuels cars. Unique in the United States, ED>Net, if successful, may be a model for other states of how to build on existing capacity in the educational system to provide highly specific skills training consistent with economic development strategies.

BASIC READJUSTMENT SERVICES

Basic Readjustment Services refers to the array of services, excluding occupational skills training, typically provided by Title III programs to dislocated workers. Among the services often included in this category are career counseling, skills assessment, stress counseling, resume preparation, job clubs, and other forms of job search assistance. This group of services tends to be offered to all participants in Title III programs, whereas training is reserved for those who wish or need to learn a new skill to change jobs. Defense workers are similar to all dislocated workers in that they vary enormously in their educational background and skills levels. On the other hand, they tend to have longer tenure with their former employers, earn more than their counterparts in the private sector, be older and more likely to have had manufacturing jobs, which means that their skills are becoming more and more obsolete. Basic readjustment services, it has been found in past evaluations of programs for dislocated workers, are a critical part of the successful service package, although not all workers need the same amount.

Developing New Models of Basic Readjustment Services

The basic readjustment services provided by the projects were generally competent. However, we had expected that more projects would develop services specifically to address the needs of former defense workers. Instead, when basic readjustment services were offered, they were similar to those developed for a more general population of dislocated workers.

Finding #11: With some exceptions, the needs of most former defense workers did not appear to differ dramatically from the needs of their counterparts in the commercial sector. For this reason, projects found that identifying new or innovative models of basic readjustment services specifically designed for dislocated defense workers did not need to be a high priority. However, participants still needed basic job search skills and assistance.

Operation StepOut offered two independent service components, both of which included basic readjustment services. One was a career counseling and job placement series offered by the university's career counseling center, and one was a "fast track" seminar for women seeking career advancement in the commercial sector. The "fast track" seminar was run as a graduate seminar and covered readings and assignments on topics related to career advancement for women. While unusual, this service design appeared to have limited relevance for other projects serving dislocated defense workers. These services appeared to be well designed to meet the needs of college graduates seeking their first jobs, but little attempt was made to adapt them to the needs of mature, experienced female defense workers.

Participants in the Alternative Fuels Training Program in Texas were enrolled in EDWAA and received basic readjustment and supportive services from the EDWAA substate areas that referred them to the DCA program for training. While all participants had access to basic readjustment services, there was substantial variation in the services available and received by different participants. For example, individuals referred to the project from one substate area were likely to receive extensive career guidance and assessment services prior to referral, while another substate area provided only informal assessment and job counseling prior to referral.

Many former defense workers seeking reemployment find that their resumes use job classifications not easily understood in the commercial sector. Nor do they accurately portray employment experience strengths and potential to private sector employers. Technical terms describing skills often have a "military" flavor, but can rather easily be converted to terms that appear more relevant for commercial activity. Some projects, recognizing this, offered assistance in "translating" resumes into terms that were more comprehensible and attractive to commercial employers. ETI and the PIC-run center serving dislocated workers from the Grissom facility offered this service as part of their basic readjustment services. This is one of the few examples in our study sample of a service that was developed specifically for former defense workers, and seemed to be an effective tool in "marketing" them to commercial employers.

PROVIDING SUPPORT SERVICES

Not unlike mainstream Title III programs, we found that most projects in this study did not offer significant supportive services to participants because they assumed that participants would not need them. Other projects depended on coordinating linkages with other programs, such as the local EDWAA program, to provide supportive services to participants. These linkages did not always result in the delivery of "seamless" services to program participants.

Finding #12: Projects rarely built supportive services into their own program designs or budgets in part because many dislocated defense workers received severance pay and or UI benefits. The lack of supportive services, however, was often a serious barrier to successful participation for many dislocated defense workers.

The MilCert program in South Carolina did not provide or arrange for financial support for participants. The project depended on referrals to community agencies, student financial aid programs, and military programs like the GI bill for meeting participants' supportive service and financial needs. Participants identified the lack of attention to financial and supportive service needs as a problem, because a number of participants (1) did not qualify for in-state tuition and thus faced high tuition costs, and (2) were in training for several years before qualifying for a paid internship or first job.

The lack of supportive services proved to be a problem for the Texas project initially, but was eventually resolved. Many of the Texas project workers could not afford the equipment, especially tools, necessary to seek and keep jobs for which they were trained. By the end of the project this was fully recognized as a legitimate need, and funds set aside for supportive services were allocated to meet this need.

The absence of supportive services emerged as a lasting problem in Project Earn, in Titusville, Florida, after it became clear that many participants needed additional training to become employable, and that to attend classes, many required transportation assistance, child care assistance, and/or needs-related payments. These services were generally unavailable as scarce resources were concentrated mainly on paying for training.

One exception to this pattern was the ETI Career Resources Center. In addition to a generous supply of other supportive services, this project offered partial reimbursement of health insurance premiums to allow participants to maintain health coverage while in enrolled in the programs and searching for work. Project staff strongly encouraged other programs to offer this support, as it appeared to make a significant difference in participants' ability to take advantage of training and other job search assistance.

HELPING WORKERS RELOCATE TO NEW AREAS

Relocation assistance was surprisingly underutilized by most projects, even by those located in areas where the local labor market was tight and relocation appeared to be a logical option. Projects did not seem to encourage participants to relocate, or if they did, participants usually resisted moving.

Finding #13: Relocation is often the best alternative for dislocated workers in some regions. When projects presented relocation as an attractive, serious option and assisted movers with information, resources, and financial support, workers were more likely to try this alternative.

The Titusville program terminees faced formidable barriers of finding work in the area, already saturated with workers with similar skills. In the meantime, employers in other areas of the country, particularly the Southwest, were looking for workers with skills like those possessed by the Titusville workers. Titusville project staff belatedly realized that relocation would have been a viable and useful strategy for reemploying at least a portion of their participants.

Some evidence suggests that when a project committed resources to assisting workers relocate and presented this as a serious and attractive option, participants were more likely to consider relocating. ETI maintained a separate, well-equipped "Relo Room" in one building, devoted to providing information and resources to men and women willing to move. Up to $800 could be provided to facilitate a move to another area. Dozens of workers took advantage of this support and accepted high-quality jobs in other states.

The experience of the Alternative Fuels Training Project in Texas, however, suggests that many workers may have a reluctance to relocate that can be difficult to overcome. Only one participant in this program accepted an out-of-town placement, despite considerable effort on the part of the job developer to identify good jobs outside of Texas.

DESIGN AND DELIVERY OF TRAINING SERVICES

All but one of the DCA grantees (Operation StepOut) and all of the supplementary projects offered some type of occupational skills training to their eligible participants.[4] The type, intensity, and duration of training varied widely, however, as discussed in Chapter 2. In this section we present key findings from projects' experiences in providing three broad types of skills training: general skills training designed to improve the overall employability of workers; specific skills training designed to equip workers with the particular skills needed to find work in specific "niche occupations" identified by the project; and entrepreneurial skills training, designed to prepare workers for starting their own businesses.

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[4] The MilCert project did not pay for occupational skills training, but existed for the sole purpose of helping students access training. For this reason, we include this project among those that offered occupational skills training.

GENERAL SKILLS TRAINING

Three of the DCA projects arranged for a variety of skills training options, and then left it up to the individual worker to determine, with guidance from staff, which training he or she wanted to pursue. Projects varied in how much research they used to determine the availability of jobs in fields for which they offered training, and usually relied on the training providers they were already familiar with to determine which courses would be available. This approach characterizes most Title III programs. The DCA grantees' experiences with this model varied, depending in large part on the local context.

Matching Services With The Realities of the Local Labor Market

With the exception of a few pockets where high unemployment rates persisted and few new jobs were being created, most areas of the United States were experiencing growth in certain sectors, such as service, retail, and tourism, during the demonstration period. Growth was particularly prevalent for small, high-tech businesses, a likely job prospect for many dislocated defense workers with high-tech skills.[5] While defense workers, particularly those formerly employed in the manufacturing sector, often do not find jobs with the same high wages as their former jobs, evidence suggests that the majority of workers seem to find jobs relatively quickly, with or without assistance.[6] In areas such as the Southwest the demand for skilled labor results in very rapid reemployment of most workers. Projects located in such areas had little trouble achieving their placement rates.

Finding #14: In healthy labor markets, short-term skills enhancement training and job search assistance can shorten unemployment spells. However, in tight labor markets far more intensive assistance is usually required.

In San Diego, an area saturated with unemployed aerospace and other defense industry workers, the project had identified short-term skills training that planners thought would make project

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[5] See *Breakthrough, The Career Transition System for Defense Professional*, The National Center for Career Change, 1992.

[6] See forthcoming RAND report, *Life After Cutbacks: Tracking California Aerospace Workers.*

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participants attractive to local non-defense employers. In one training component, seventy dislocated design professionals (engineers and draftspersons) were enrolled in an 80-hour class to learn a three-dimensional drafting software program that was supposed to be "in demand" by local employers. Unfortunately, participants still had difficulty obtaining related jobs after completing this training program. The conclusion drawn by some project partners was that short-term training was not intensive enough to make dislocated engineers and design professionals employable in this difficult labor market. However, former manufacturing workers who participated in another short-term training class on manufacturing technology had a slightly easier time finding new jobs after training.

The Texas Alternative Fuels Project found that the training they provided to participants did not lead to highly paid jobs, partly because the jobs in alternative fuels were very scarce and partly because the skills training participants received may not have been adequate to make them sufficiently attractive to employers. And finally, the most highly skilled automative workers tended to find replacement jobs quickly, without intensive skills training.

Operation StepOut served workers during a period when the Arizona economy seemed to be recovering from the negative impacts of defense downsizing and where the ranks of the unemployed were shrinking. Women who were actively seeking work did not appear to have trouble finding new jobs. However, a paradoxical outcome of this program was that participation may have lengthened, rather than shortened, spells of unemployment for some women. Relatively few women (about half) had found new jobs by the time they were interviewed six months after termination. However, this was not necessarily because they were unable to find jobs. Rather, it turns out that the majority were not actively seeking work. One of the effects of participating in Operation StepOut may have been to cause participants to want to take time to reflect on their career options.

Training Dislocated Workers for High Performance Workplaces

Some projects tried to increase the employability of workers by providing them with training in skills needed to function well in "high performance workplaces," in whatever industry the business might be located. Project planners believed that employers increasingly value such skills and that attendance in such a course would enhance workers' attractiveness to employers.

Finding #15: Projects that combined short-term High Performance Workplace Organization (HPWO) skills training with other skills training rather than offering it as a stand-alone service found that their program graduates were more likely to find jobs.

The findings from San Diego suggest the need for caution in using HPWO training as a stand-alone strategy to reemploy dislocated defense workers. The class in "manufacturing technology" provided 88 hours of hands-on training in TQM skills, manufacturing resource planning and process control, and leadership. While staff were particularly excited about the idea of teaching TQM skills in the applied context of an individual job search, and most participants reported enjoying the course, participants contacted after training did not feel that the training had been instrumental in finding their next jobs. In addition, the administrator of the agency providing the training said that she believed that TQM training should have been part of a more intensive retraining strategy also involving intensive occupational skills training.

TRAINING FOR SPECIFIC, EMERGING, OR NICHE OCCUPATIONS

Job training programs are often criticized for training workers for jobs "that do not exist." There can be few experiences more frustrating than losing a job held for many years, enrolling in a course of skills training that is supposed to lead to a new start and a new career, sometimes enduring considerable financial hardship, only to find at the end that there are no jobs in the field for which one has trained. Such occurrences are an unfortunate waste of both the individual's time and society's scare resources.

Several projects attempted to design their programs specifically to avoid this problem. While these projects were by far the most innovative and promising of all the projects studied, they also faced the most formidable challenges in implementing their programs and achieving the desired results: placing workers in good jobs for which they were trained. Challenges included identifying appropriate workers to train; accurately predicting which occupations are growing; and identifying the correct amount and type of training to ensure that trainees are adequately prepared to fill vacancies.

Identifying Emerging Occupations Using Employer Surveys

When identifying "niche occupations" or occupations for which there is likely to be a high demand for qualified labor, project planners tended to rely on local employers as their primary source of information. The difficulty with this approach is that even if a survey or focus group is competently carried out, individual employers do not necessarily have the ability to predict future labor needs for themselves, let alone for other employers in their sector. This is particularly true for occupations in emerging technologies.

Finding #16: Although several projects surveyed local businesses to identify future labor needs, they found that employers may not be the best source of information on this topic. Projects had practical difficulties fielding successful surveys, and found the usefulness of such surveys or focus groups mixed.

The San Diego project, for example, attempted to survey a sample of local employers to identify current and future labor needs and vacancies. The survey itself was very challenging to implement, and initially only a small fraction of the surveyed employers bothered to return the questionnaire. The skills that employers indicated they were looking for in new employees were the following, in order of the frequency with which they were mentioned: quality assurance, problem solving TQM, document control, and material safety. In response, a course was developed offering these five skills areas. A possible explanation for the low placement rate of workers who took this course is that the survey results themselves were less than reliable. An alternate explanation is that employers did not specify what levels of knowledge or experience would make a new job applicant desirable.[7]

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[7] When working to place participants, some projects had to contend with negative stereotypes of defense workers, relating to perceived characteristics such as their relatively advanced age, high wage expectations, union status, outdated skills, and less flexible working styles.

Predicting Emerging Industries Based on Legislative Action

Some projects predicted the emergence of new occupations based on anticipated government policy changes, such as those involving air pollution control. These projects designed their training programs in the belief that these policy changes would create whole new industries in which many former defense workers could be employed.

Finding #17: Counting on future passage of legislation to create new careers or increased demand for certain types of skills is risky. Projects gambled on the passage of clean air legislation and lost the bet when such legislation was cancelled or delayed.

In California, observers have been predicting for years that the manufacturing and repair of electrical vehicles would create thousands of jobs. Programs serving former defense workers understandably saw a unique opportunity to place former defense workers in high quality jobs. Unfortunately, legislation in California has been delayed and several programs, including one DCA project, has had to put on indefinite hold plans to train workers in processes related to the production of electric cars.

The Texas project suffered a similar sequence of unexpected events. The Texas Railroad Commission, which developed the concept for and administered the Alternative Fuels Training Project in Texas, is the state agency responsible for regulating the oil and gas industry, including licensing the use of propane and liquid petroleum gas. As such, this agency seemed to be in a good position to predict state and federal policies encouraging the use of alternative fuels for public and private vehicle fleets to promote clean air goals. The agency predicted an emerging demand for workers to support the expanded use of alternative fuels as fleet managers, conversion technicians, and maintenance technicians. The DCA project was set up to provide training to qualified former defense workers to position them for these jobs. Unfortunately, this well-conceived plan was never fully realized, due in large part to the Texas legislature defeating a measure that would require local governments to adopt alternative fuels systems for public vehicle fleets.

Anticipating Job Openings by Working With Individual Employers

Rather than relying on a surveyed sample of employers or trying to read the crystal ball of future legislation, other projects attempted to form close ties with individual employers and provide customized training in skills needed by these employers. In this way, projects hoped to ensure that jobs would be available for workers upon completion of training.

Finding #18: Providing customized skills training for stable, growing employers can be an effective strategy for job training programs. However, some projects relied too heavily for placements on employers who themselves were facing highly uncertain and volatile times.

The highly creative concept behind the Hub Engineering project of the IAM project in Southern California was to train and place dislocated workers with employers who were to be involved in planning training from the start. Hub Engineering began by establishing a committee of about twenty firms willing to hire participants. The training plan included four components: computer literacy, concurrent engineering, introduction to composites, and composite fabrication. Unfortunately the training apparently did not make the participants sufficiently attractive, and the employers did not deliver on their part of the agreement, which was to hire the graduates. Many companies were undergoing layoffs at about the time the workers were ready for placements. A final problem was that the union, the grantee in this project, further stipulated that employers provide good wages, benefits, and a safe working environment. The few jobs that were available could not meet these high standards.

Identifying Growth Areas and Future Labor Needs in Conjunction With Regional Economic Planning

A rare but very promising type of project is one that develops the strategy of identifying sectors with a high likelihood of growth by using *ongoing relationships* with organizations—including economic planners, employers, academics, and others—with knowledge of and influence over economic development trends in states or regions.

Finding #19: Projects preparing workers for new careers benefited from close linkages with the organizations or industries connected with the new careers. Employment and training programs that link their strategies with statewide economic goals are particularly successful in identifying the emergence of new occupations.

Projects that relied on a network of organizations and academics to help them predict emerging occupations and tried to coordinate their efforts with economic development goals were most successful. For example, ED>Net's Department of Defense project is one part of a larger, state-wide initiative to promote job creation and economic development through workforce training. ED>Net is supporting the state's role in facilitating and supporting emerging industries in the state, to replace lost jobs in the defense and manufacturing sectors. Three growth areas have been identified: Environmental Technologies, Advanced Transportation Technologies, and Small Business/International Trade. Local community colleges have been funded to develop curriculum for courses in these three areas.

ENTREPRENEURIAL TRAINING

Two of the DCA grantees targeted their efforts to assisting former defense workers who had occupied high-level managerial or technical positions start their own businesses. Assisting workers to start their own businesses is a strategy that is growing in popularity in job training programs, and the projects studied here serving defense workers were no exception to this trend. Helping workers start new businesses that ultimately might hire other dislocated workers remains an attractive job-creation strategy.

Entrepreneurial Training: Not An Option for Everyone

While entrepreneurial assistance is an alluring job-creation strategy and seems like a natural fit for the segment of the dislocated defense worker population that has a high level of technical knowledge and skills, many employment and training programs, not excluding those run by the DCA grantees, tend to be unprepared to offer the full array of services successful entrepreneurial programs offer and to devote the necessary resources to screening applicants and selecting only those appropriate for this type of training.[8]

Finding #20: Job training programs sometimes include entrepreneurial training as a "menu item" along with a number of other training options, and realize too late that this option may not be appropriate for all dislocated workers. The DCA projects found that helping workers start their own businesses required very different forms of assistance than providing mainstream job training.

Projects found that entrepreneurship projects needed to be highly selective in recruiting participants. Selection criteria needed to take into account the quality of the business concept, the technical and entrepreneurial talents of the would-be entrepreneur, and the availability of a source of personal financial support during training and business start-up.

The San Diego high-tech entrepreneurial training program was designed to recruit individuals with the "right stuff"—a combination of technical skills, leadership and entrepreneurial vision, and a strong commitment to a specific idea for a new business venture based on high technology processes used in the defense industry. The program offered an exemplary entrepreneurial training model. Project services and activities included lectures and discussions on business development and management oriented to the "nuts and bolts" of the small business development process, exposure to technical and business experts who provided critiques and advice about the proposed business concepts and start-up plans, information about sources of venture capital and access to forums where entrepreneurs present business concepts to venture capitalists, and opportunities for interactions with existing business owners/managers through formal or informal internships.

The San Diego Entrepreneurial project boasted a very high business start-up rate for programs of this kind. Of the nineteen who took the course, 18 had started developing an enterprise by the end of the project. Its success can be attributed in part to its careful screening and selection procedures.

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[8] See Evaluation of the Economic Dislocation and Worker Adjustment Assistance Act (EDWAA) Job Creation Demonstration, U.S. Department of Labor, Employment and Training Administration . Washington, D.C. 1994.

In contrast, the C3 project in Binghamton, New York recruited former middle-level managers and engineers from the defense industry who were interested in working to develop new business products or processes, but who did not have specific ideas for new businesses when they entered the project. These individuals were organized into self-directed teams to generate and work collectively on ideas for new business ventures in partnership with local businesses. The training designed by the project emphasized the development and practice of high-performance work organization skills in the pursuit of the individual project concepts. The project placed less emphasis on practical training in the details of business start-up and management than did the San Diego project. The end result was that few—if any—of the team projects turned into businesses, although some may have indirectly led to regular employment for some of the participants.

Using Linkages With Existing Businesses to Help Entrepreneurs

Projects emphasizing entrepreneurial training used linkages with existing businesses in innovative ways. These linkages included using existing businesspeople to help generate ideas for business start-ups or spin-offs (Binghamton), critique entrepreneurial plans (San Diego), provide "mentorships" for budding entrepreneurs (San Diego), and be potential business partners in joint ventures with new entrepreneurs (Binghamton).

Finding #21: Project designs that involved existing business owners and managers in critiquing business start-up plans, providing assistance with particular aspects of business development, and providing "hand-holding" or mentoring during the start-up phase were crucial elements of successful entrepreneurial programs.

The San Diego entrepreneurial program was particularly strong in the area of ensuring abundant contact between would-be entrepreneurs and business mentors. The project had little trouble recruiting local business owners to assist participants, in part because the modes of business participation in San Diego were relatively unthreatening to the business people involved. Business representatives were selected because of their previous contacts and relationships with CONNECT staff or because of similarities between their businesses and the businesses proposed by project participants. These individuals were asked to serve on the project's advisory committee, be available for brief consultations with project participants on particular aspects of business start-up (e.g., legal issues or record-keeping practices), and/or be a "mentor" to a participant interested in starting a business.

In contrast, the Binghamton project had hoped that local businesses would be active stakeholders in the C3 project teams. In fact, in some ways, this project was targeted as much to local businesses as the "real clients" (to promote agile manufacturing practices) as it was to individual dislocated workers (to reemploy participants through self-employment or employment by a local firm involved in the project). Ultimately, because of a declining regional economy that was hit by a combination of buyouts of large defense corporations in the area (e.g., General Electric Aerospace by Martin Marietta) and layoffs at other firms (IBM), local businesses were unable or unwilling to play the roles that had been designed for them. The businesses that did sponsor C3 projects did so at relatively low levels of financial commitment and corporate involvement. Once again, the result was that few, if any, projects were successfully realized.

STRATEGIES FOR SUCCESS

Other projects may be able to benefit from the experiences of the DCA projects and supplementary projects discussed here. These experiences suggest the following strategies for success for current and future efforts to serve dislocated defense workers. The chart below depicts the seven strategies for success that have emerged from this evaluation.

(1) Projects need to be sure that the local labor market is healthy enough to support its service strategy. In particular, if the local labor market is inundated with dislocated defense industry engineers or manufacturing workers, direct job search assistance and short-term training are likely to produce disappointing reemployment results.

(2) Projects need to coordinate closely with the regular EDWAA service delivery system to be sure that they are not just duplicating services already available and to take full advantage of the substantial expertise these programs have in serving dislocated workers.

(3) Projects need to be very sure that the training they offer is in skill areas that are in-demand by local employers and that the training provided will be sufficient to make training graduates competitive with other job seekers.

(4) In choosing new occupations to market to dislocated defense industry workers, it is important to pick occupations that build on the interests and transferable skills held by a sizable subgroup of these workers.

(5) In identifying new occupations to train dislocated defense workers for, it is important to be aware of state or regional economic goals and try to link training with these goals.

(6) In selecting participants for training for a particular new career, it is important to pick individuals whose abilities, interests, and wage goals are a good match for the targeted occupation.

(7) In recruiting participants, projects must provide realistic information about the working conditions and compensation for jobs available in the targeted field.

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CHAPTER IV
CONCLUSIONS

IV. CONCLUSIONS

The Defense Conversion Adjustment Demonstration provided an opportunity to test how public funds can be used to help support the adjustments necessitated by reductions in defense spending. Impacts from defense downsizing, which began in the late 1980's and are expected to continue at least to the end of the decade, are occurring at the individual, firm, and community levels. The 19 Defense Conversion Adjustment (DCA) demonstration projects each intervened at one or several of these levels.

In planning for the DCA demonstration the Department of Labor and the Department of Defense hoped to learn how to intervene effectively to facilitate and support the economic adjustment process. By providing funding with a minimum of regulatory constraints and encouraging locally initiated project designs, the federal agencies concerned with defense conversion hoped to elicit project proposals that would: (1) test innovative designs, (2) act as catalysts for change, (3) create new organizational partnerships, and (4) promote effective outcomes.

In the remainder of this chapter, we comment on how well the projects testing worker mobility strategies have met these four expectations and the implications their performance may have for public policy.

PROMOTING INNOVATION

The announcement of the Defense Conversion Adjustment Demonstration emphasized that innovation was a pivotal goal of the demonstration. The relative absence of administrative rules and regulations for this program was intended to give each grantee enough flexibility to try new designs in responding to the defense drawdown. It was hoped that innovations tested by demonstration grantees would have future applicability not only in the defense conversion context but also in broader contexts. For example, if innovations in providing basic readjustment and skills training services to dislocated defense workers worked well for this group, they may work for other populations of dislocated workers as well.

The worker mobility projects, on the whole, were somewhat less innovative than the projects testing either community planning or dislocation aversion strategies. In some cases, attempts to implement innovative designs were hindered by inaccurate assumptions about the labor market or the number and characteristics of the target group. Nonetheless, the worker mobility projects tested a number of program designs that were new or relatively new for the Department of Labor.

For the worker mobility approach, innovations were relatively modest because these projects generally followed a standard program design shared with dislocated worker programs funded under Title III. Nevertheless, we observed some innovative project designs or elements in the designs such as:

- Training groups of dislocated workers for "niche" and emerging occupations (MilCert in Clemson, South Carolina; The Alternative Fuels Project in Dallas-Fort Worth, Texas; and the International Association of Machinists and Aerospace Workers (IAM) project in Burbank, California).

- Supporting "high-tech" entrepreneurship and business spinoffs as a strategy to create new jobs (the DCA project in San Diego, California and C3 in Binghamton, New York).

- Providing training to at-risk, assembly line workers before they were laid off to enhance their chances of reemployment (the Minnesota DCA project).

The projects targeting niche occupations for groups of dislocated defense workers were the most innovative of all the worker mobility projects, in that they attempted to break new ground in assuring that jobs would exist for participants once they had completed training. These projects succeeded in developing high quality training programs in particular occupational fields and/or providing dislocated defense workers with access to high quality training. However, it proved to be more difficult to recruit and match participants to the training than project planners anticipated. Two of the three projects fell so far short of their enrollment goals that it is difficult to say whether their design ever got a fair test. Another problem faced by these projects was that despite dedicated efforts to identify emerging occupations, the anticipated jobs sometimes failed to materialize due to factors outside of the control of the projects such as delays in the enforcement of anti-pollution legislation which would have "jump-started" the alternative fuels advanced transportation.

USING PROJECT FUNDS AS A CATALYST TO PROMOTE CHANGE

Because the economic adjustments necessitated by defense spending cuts are extensive and the public funds available to support defense conversion are limited, another goal of the DCA projects was to use the available funding in ways that could stimulate further public and private investments. In addition, the federal agencies interested in defense conversion would like to identify the opportunities for public investment that will provide the greatest return to the taxpayer. This necessitated a careful balancing act on the part of the DCA projects: selecting workers, firms, and communities that did not have sufficient skills or resources to complete successful transitions on their own, yet had the potential for achieving successful outcomes, given the available assistance.

The worker mobility projects had limited success in leveraging additional resources. Indeed, attempts to leverage additional public funds even created problems for some worker mobility projects when other funds failed to materialize. Several worker mobility projects tried to take advantage of additional public and private investments in transferring dual use technologies to the commercial sector to create new jobs for dislocated defense workers. Examples included the emphasis on "high tech" entrepreneurship in San Diego, California and Binghamton, New York, and the effort to leverage large technology reinvestment grants for the electric vehicle industry by IAM in Southern California. In these cases, however, the effort to leverage additional funding interfered with the planned demonstration project, when the other expected investments did not occur. For example, when private industry backed out of its stake in the C3 demonstration in Binghamton, New York, and when the investments in the electric car industry did not happen as anticipated in Southern California, the initial designs of these two ambitious projects were undermined.

Other projects hoped to become "catalysts for change" by functioning as replication models for other programs throughout the country. Staff from two of these projects took steps to realize this objective. Replication of Operation StepOut was attempted in Tucson, (a two hour drive from Tempe, the home of the project) and MilCert staff spent substantial time "on the road" trying to encourage replication of their effort elsewhere. Unfortunately, neither project could point to clear successes in their original projects, and their attempts to prompt similar efforts elsewhere received little attention.

BUILDING NEW ORGANIZATIONAL PARTNERSHIPS

Another difference between the DCA projects and other more traditional Department of Labor (DOL) activities was the greater organizational flexibility given the projects to select administrators and form partnerships among a wide variety of organizations to design and implement services. Responding to the challenge, DCA projects created new relationships rarely seen in the employment and training world at the state and local levels, e.g., between employment and training agencies, educational institutions, human services agencies, private corporations, labor unions, community planning boards, the military, economic development agencies and locally elected officials.

For the worker mobility projects, new project partners—including universities and economic development groups—benefited projects by helping identify occupations that seemed appropriate for reemployment of dislocated defense workers, as well as designing curricula to meet industry needs for skilled workers in the targeted occupations. However, in some cases, these partners had their own agendas that weakened projects' focus on achieving high quality jobs for dislocated defense industry workers. For example, the heavy involvement of university faculty in designing and administering Operation StepOut led staff to try to instill in participants a rather academic understanding of gender issues rather than practical knowledge about how to find high-quality replacements jobs. The C3 program, based at Binghamton University in New York, was unable to become the "economic revitalization" initiative planners had envisioned, nor could it become a quality employment and training program for dislocated workers.

ACHIEVING DESIRED OUTCOMES

Measuring outcomes was a challenge for many projects. Isolating the effect of the funded demonstration activities on outcomes was difficult, given the importance, complexity and extreme variation of the contexts in which the demonstrations operated and the absence of any comparison sites or groups of participants to determine what would have happened in the absence of the demonstration. Also, some projects operators felt it was more important to focus on implementing innovative designs successfully than to focus on ensuring positive participant-level outcomes. Nevertheless, all of the worker mobility projects identified measurable outcomes in their proposals, and at least one measure of their success as demonstration projects was their ability to place participants in good jobs.

The worker mobility projects were not notably successful in placing displaced defense workers in jobs. The reasons for this were mixed: some projects faced extremely adverse labor markets, and underestimated the amount of skills training former workers would need to become sufficiently attractive to employers. Other projects placed very few participants in jobs simply because they were unable to enroll very many participants. Finally, some projects achieved modest outcomes because they operated programs that were poorly matched to the needs and skills of the target population and/or the realities of the local labor market.

The worker mobility projects, of course, were not without their success stories. Project Earn placed former defense workers in jobs with unexpectedly high wages. The entrepreneurial program in San Diego achieved an outstanding small business start-up rate. Operation StepOut caused a statistically significant positive impact on women's career awareness and self-confidence. Several workers at Alliant TechSystems survived layoffs because of the classroom training they received. One fourth of the workers in the Texas project started new careers as alternative fuels technicians, an industry that eventually must expand despite temporary legislative setbacks.

POLICY IMPLICATIONS

Like any major experiment, the DCA demonstration contained both successes and failures. When the Department of Labor requested proposals for these grants, it deliberately invited applicants for funding to "break the mold." Project designers responded by taking risks in how they proposed to set goals, form partnerships, select and recruit target groups, design and deliver services and monitor their progress. Risk-taking leads to mistakes, and this demonstration included its share of mistakes. But risk-taking also leads to new knowledge, new models, new lessons. The lessons learned from the worker mobility projects are highly relevant in this era of workforce development and employment and training reform. The DCA demonstration more than succeeded in providing useful lessons on how to support economic conversion and promote employment and job growth, whether or not the individual projects succeeded in accomplishing each of their objectives.

Although the worker mobility projects attempted to be innovative, for the most part, they did not improve on the service delivery designs currently in operation in the Title III dislocated worker system. None of the DCA worker mobility projects were more effective than the average Title III program, as measured by standard indicators of success such as the percentage of participants who complete training, percentage of participants placed, or average wage at placement. Furthermore, the projects that were most successful, whether they were innovative or not, were those that were operated by organizations such as Title III agencies or Job Training Partnership Act (JTPA) operators that had substantial experience serving dislocated workers. In contrast, several supplementary projects serving dislocated workers obtained high quality outcomes by administering less innovative, but competently operated programs emphasizing a wide range of customer-driven choices within an environment of coordinated community services. This observation underscores the need for continued funding of employment and training programs at a level that is adequate to promote high quality services and outcomes while continuing to provide state and local programs with the encouragement and guidance they need to pursue improvements of their programs, without "reinventing the wheel". Our study also suggests the importance of maintaining a reserve of discretionary funds to fund local responses to the extraordinary dislocations that are a result of major structural changes such as defense downsizing.

The target of much criticism and the object of several pending pieces of reform legislation, the job training system in this country appears to be serving both defense and non-defense workers well. Our study does not point to the need for dramatically different services for defense workers. The system need not be thrown out or rebuilt from the ground up, as many critics argue. On the other hand, without adequate funding, either through state and substate Title III funding or the National Reserve Account, the needs of millions of dislocated workers who lose their jobs through no fault of their own will go unmet.

APPENDIX A

DEFENSE CONVERSION ADJUSTMENT PROJECT PROFILES

FACT SHEET: DEMONSTRATION PROJECT

THE CENTER FOR COMMERCIAL COMPETITIVENESS (C3)

Project Location	Binghamton, NY	***Grantee***	The Research Foundation of State University of New York (SUNY) at Binghamton
Type of Approach	Worker Mobility	***Project Administrator***	The Center for Commercial Competitiveness (C3)
Period Covered by Grant	November 1992–April 1995	***Key Contact***	William Klish, former Program Executive
Grant Amount	$452,269	***Geographic Area***	The Southern Tier Region of New York State

Context

The Southern Tier region is home to numerous large multinational defense and non-defense firms. Corporate restructuring in the late 1980's resulted in substantial downsizing by major employers. Subsequent cuts in defense spending exacerbated regional economic tensions. Prior to massive reductions in Department of Defense contracts, the region had the tenth highest concentration of defense-dependent manufacturing firms in the U.S. Between 1989 and 1991, defense spending in the region decreased from approximately $570 to $342 million, resulting in substantial job loss.

Primary Goals

C3 was conceived as a coordinated response to a regional crisis, addressing the needs of firms and dislocated or at-risk workers. The project sought to:

- Revitalize the Southern Tier economy through a public-private partnership.
- Design and administer training in commercial competitiveness and entrepreneurial skills to dislocated defense workers.
- Assist firms in exploring new markets and increasing their competitiveness.
- Assist entrepreneurial participants in starting small businesses, ideally through joint ventures with existing firms.

Key Players

- **C3** — Administrator of the program, including recruitment of participating firms and individuals and delivery of training.
- **Private Industry Representatives** — Several firms participated in the planning stages of the project; a few were involved in ongoing project activities.
- **Public Agencies** — the impetus for C3 came from two county-level public agencies; several local boards and associations and university-based staff were involved in the project's early planning and organization.

Significant Outcomes

- Forty-five participants completed 10 weeks of training in commercial competitiveness; 34 completed the entire training program.
- Participants formed project teams and some completed team-based projects in collaboration with local firms.
- The successful launch rate of the new team-based ventures was limited.
- Some participants pursued entrepreneurial activities using new skills.

CENTER FOR COMMERCIAL COMPETITIVENESS (C3)

Binghamton, New York

THE CONTEXT

Since 1980, the economy of the nine-county Southern Tier region of New York, home to a large number of multinational corporations and defense prime contractors and subcontractors, has been hard hit by several simultaneous economic changes, including recession, corporate restructuring and defense downsizing. As a result, the area has lost more than 20,000 manufacturing jobs.

In 1992, the Southern Tier region had the tenth largest concentration of defense-dependent manufacturing firms in the country. Defense-related industry was concentrated on the production of electronic components used in military aeronautics. Shrinking Defense Department budgets resulted in a regional decline in defense spending between 1989 and 1991 of approximately $228 million or 40%. Cutbacks continued at a slightly reduced rate between 1991 and 1993.[1] Direct defense cuts were severe, resulting in the loss of more than 8,000 jobs. Indirect cuts were also substantial, prompting secondary and tertiary dislocations in numerous small- and mid-sized second- and third-tier suppliers and service sector businesses.

GOALS AND STRATEGIES

In the context of shared concern about the future viability of the Southern Tier economy, public and private sector representatives began pursuing ideas for generating economic growth in the region. The Tioga County Economic Development Council (TCEDC), the Tioga County Industrial Development Agency (TCIDA), and General Electric Aerospace (GE), a major employer in the area, first developed the C3 concept. GE saw the project as an opportunity to use public funds to support conversion efforts; the County saw it as an opportunity to form an ongoing public/private partnership aimed at spurring region-wide economic growth. The County sought support at the state-level, and the idea eventually won an enthusiastic proponent in the Vice President for External Affairs at the State University of New York (SUNY) at Binghamton.

The Center for Commercial Competitiveness (C3), a nonprofit organization, was founded to serve displaced defense workers and restructuring firms. Project planners envisioned the Center as a catalyst to reinvigorate the Southern Tier economy by: (1) providing academic and professional expertise to downsizing defense firms attempting to convert to commercial markets; (2) training dislocated defense workers in the skills necessary to render local firms globally competitive; and (3) linking these two groups in joint ventures to launch new enterprises to create new jobs for the regional economy. The project's specific objectives were as follows:

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[1] *Economic Adjustment Strategy for the Southern Tier Region of New York State*, published by Economics Research Associates under a grant from the New York State Department of Economic Development, July, 1993.

- Train 45 displaced workers in commercial competitiveness.
- Make training programs available for industry.
- Develop at least six work teams.
- Do core competency assessments for participating companies.
- Identify new markets for regional industries.
- Identify at least three new products that could be produced by local industry.
- Enhance cooperation between industry, academia, and government.
- Plant seeds for cultural change in industry by training workers.
- Submit proposals for funding ideas generated in Phase I.
- Achieve some business start-ups.
- Strengthen local companies through technology transfer among participants.
- Facilitate communication between the public and private sectors.
- Propose two joint ventures among participating companies for implementation in Phase II.

To achieve C3's objectives, the project identified a three-stage strategy:

- **Team Building**, which would focus on providing training in commercial product/market development to displaced defense workers.

- **Synergistic Enterprise Development**, which would support the formation of joint ventures between private industry and dislocated worker teams.

- **The establishment of "Virtual Companies"** to practice agile manufacturing techniques.

These three stages were designed to build upon one another; the Defense Conversion Adjustment (DCA) demonstration project was limited to the first two stages.

KEY PLAYERS

C3 was the result of a collaboration between a consortium of (1) public agencies, including state and local governments; (2) private industry, including a number of defense contractors; and (3) academic institutions including SUNY-Binghamton/C3, Cornell University and Broome County Community College. The roles of each of the actors, including C3 itself, changed substantially over time.

Public Agencies. Although the original impetus for C3 emanated from the County (TCEDC and TCIDA), the State Departments of Labor and Economic Development provided additional financial support for the initiative and recruited SUNY Binghamton as a host institution and potential grantee. Several local Boards and Associations, and university-based initiatives and networks, along with the University-Industry-Public Partnership for Economic Growth (UnIPEG) also played roles in the project's early planning and organization.

Private Industry. The General Electric Aerospace Division was involved in developing the county-level initiative, while other private-sector firms such as IBM Federal Systems, CAE Link, AAI Microflite, SCI Systems and Dover Corporation became involved in the later planning stages.

SUNY Binghamton. As a result of the Vice President of External Affairs' interest in C3, SUNY Binghamton wrote the grant and served as the official grantee. The university housed C3 and provided informal access to information, professional networks, and other university-based resources. Such connections lent the project initial institutional legitimacy even though it maintained its separate 501(c)(3) non-profit status and planned to relocate as it grew. SUNY Binghamton staff also provided assistance with curriculum development.

The Center for Commercial Competitiveness. C3 was governed by an active Board of Directors made up of 12 representative from industry, state and local government, the local Private Industry Council (PIC) and academia, including the Vice President of External Affairs at SUNY Binghamton. The Board functioned as a policy-making institution and a liaison between C3 and regional industrial and commercial needs. An Advisory Council, made up of 25 representatives from many of the same organizations as the Board members, (five individuals served on both oversight bodies) served as a day-to-day consultative body from which C3 staff could solicit advice and general assistance. After the project was underway, C3 staff found that the roles of the Board and Council often overlapped. The Council was therefore replaced with an Industry Forum comprised of local entrepreneurs, in an effort to provide technical assistance to participants interested in opportunities for self-employment.

Cornell University, Broome County Community College also provided assistance with curriculum development.

THE IMPLEMENTATION EXPERIENCE

The oversight and infrastructure of C3 was developed in a series of meetings between county, state and local officials, university representatives and planning partners in private industry in early 1992. The Center was formally established at the University in April of 1992. The project's first challenge was securing the financial support necessary to pursue its objectives. When availability of DCA demonstration funds was announced shortly after the founding of C3, project planners saw the grant as a natural complement to these objectives. Although prior to the DCA grant award in November of 1992, there had been little activity at C3, the infusion of demonstration funds allowed the project to move forward. C3 began working with individual dislocated workers and local defense contractors and subcontractors in January of 1993.

The strategy for reemploying dislocated defense industry workers initially designed by C3 project organizers was among the most innovative of the DCA demonstrations. However, the project was not able to secure the anticipated level of private industry participation once implementation began, and was forced to alter its strategy and objectives.

Although the Center was first conceived as a resource for information and a provider of consulting services for local business and a broker of joint ventures between regional firms and dislocated defense workers, it evolved into a training program that focused on supporting groups of dislocated defense workers in developing new small business enterprises. Participants, however, had been selected on the basis of the original C3 project plans. Their general educational and professional backgrounds as middle managers in the defense industry served as the criteria upon which they were chosen to participate in the project. Since new business opportunities and ideas were supposed to have been generated through the participation of private sector firms, no assessment of participants' entrepreneurial ideas, aptitudes or experience was conducted. The absence of such private-industry sponsored joint ventures around which participants could develop new employment opportunities forced the dislocated worker teams to develop small business start-up ideas themselves —a challenge for which they were unprepared.

This forced revision in project objectives changed C3's service strategy. Originally, the Center planned to provide combined groups of employed and dislocated defense workers with instruction in transitioning to commercial practices, new market/product development, and High Performance Work Organization (HPWO) skills, including teamwork. The lack of industry participation prompted the Center to adopt a narrower approach limited to retraining dislocated workers in HPWO and entrepreneurial skills.

The project staff, with the assistance of local community colleges and SUNY Binghamton, had developed a training program in commercial competitiveness including instruction in team-skills and HPWO practices. After the changes in project organization, C3 staff used participant input to determine the scope and duration of training in particular themes or practices in an effort to render the program more relevant to the new objectives of the participants. Staff provided formal training in particular skills as needed—participants referred to this as "just-in-time-education." Once the project began to emphasize entrepreneurial training, however, the project may have inadvertently reinvented the wheel—the Binghamton Service Delivery Area (SDA) already had a well-developed entrepreneurial training program.

RECRUITMENT AND SELECTION

Originally, the Project recruited both dislocated workers and defense firms that were planning to engage in defense conversion activities; later efforts were concentrated on individual dislocated workers.

FIRMS

The project attempted to recruit firms formally and informally, but the response in both cases was disappointing. In the original design for stage one, the project expected to serve both defense-dependent firms and dislocated workers by enrolling equal numbers of employed and dislocated workers on project-based teams sponsored by the participating firms. C3 also anticipated local firms to provide ideas for new start-up projects that participants could pursue, and financial contributions to the organization that would support project work. Such contributions, financial and otherwise, did not materialize.

The formal process for recruiting firms included press releases, targeted mailings, and video presentations, first to defense-dependent firms and later to all interested firms. Approximately 600 defense and non-defense firms were contacted. Informally, the private sector firms that had been actively involved in the planning process served as potential candidates and networking vehicles for recruiting other firms. Between the time that the grant application was submitted and the grant awarded, however, the regional economy continued to deteriorate: two of the three initial corporate partners were bought out by other firms, resulting in the loss of key professional contacts; other potential partner firms were forced to engage in massive downsizing and were left without the people or the financial wherewithal to support C3. Ultimately thirteen firms were involved in some aspect of C3's project teams; five of these were involved in defense work.

INDIVIDUAL PARTICIPANTS

In order to recruit individual participants, C3 conducted extensive mailings to professional and technical societies, made presentations at dislocated worker job clubs and rapid response worker orientations, and conducted outreach through the state and local Title III programs. The Center also advertised through radio and local television announcements and in local newspapers.

The project used a rather sophisticated screening process for the 102 individual applicants, developed on the basis of the original C3 project goals. Once the project changed direction as a result of the lack of industry participation, however, there was an obvious mismatch between the skills and interests of the selected participants and the objectives of C3. The project had originally targeted dislocated workers with a broad range of technical skills and management experience. Although an *interest* in entrepreneurship was one selection criteria, the development of a realistic idea for a new business venture was not. Moreover, neither leadership skills or self-motivation was assessed. Of the original 55 participants, most had backgrounds in engineering or management. In addition, a few technicians and clerical workers were accepted into the program. The ideas for projects on which these participants would work were supposed to come from industry. Without ideas to serve as catalysts for the development of new employment opportunities, the C3 participants had difficulty establishing entrepreneurial project teams.

SERVICES OFFERED

The C3 project planned to provide participants with training and experience that would enable them to create or identify new jobs or enterprise opportunities —although the project seemed to have difficulty deciding whether the reemployment model would involve contributing to pre-existing projects, developing ideas for new businesses, or both. The project planners and staff did not become involved in the design or delivery of readjustment services to participants other than training. However, because the project was housed at the university and maintained a Board of Directors that included representatives from sponsoring academic institutions and local agencies responsible for dislocated worker services, participants did have access to personal and career counseling services at the university and to information about other services for which they may have been eligible.

TRAINING

Training occurred in three phases. First, participants engaged in a five-part training course designed to prepare them for working in teams. The first training phase was very intensive, requiring participants to be in the classroom for 6 hours every day for more than 6 months. The topics covered by classroom training included:

- ***Corporate Culture:*** an exploration of (1) the values that underlie corporate culture, and the meaning of personal relationships in workforce communities; (2) the nature of change and flexibility/agility in the new global marketplace: and (3) new business processes.

- ***Team Building:*** training in the essentials of high quality work teams including communication skills, goal setting, decision-making, problem-solving, and leadership.

- ***Business Process Development:*** training in organizational and financial management, strategic planning and outcome measurement and analysis.

- ***Commercial Competitiveness:*** introduction to market research, and assessment of product viability, cost-pricing structure, and competitive advantage.

- ***Systems and Manufacturing:*** training in the use of information in developing a business strategy and facilitating rapid responses to market demands.

The courses were offered daily and held on the SUNY Binghamton campus. Together, the various modules comprised 300 hours of classroom instruction. The instruction was fairly flexible in that it did not occur sequentially but in an order that the participants identified as being most valuable. Instructors, who had little practical experience in the methods being taught, attempted to inform the theoretical instruction with examples from participant experiences.

At the end of six months, participants began the second phase of training. They were divided into six process groups, each of which was charged with developing a strategic plan for achieving a particular training objective. These objectives included:

- Identifying the core competencies of the individual participants and assessing the strengths and weaknesses of the group as a whole.

- Developing criteria for the establishments of working teams that would take on projects in the third phase of the training program.

- Assessing, in a general way, the core competencies of regional private sector firms in order to identify the strengths and weaknesses of the Southern Tier region as a whole.

- Establishing a mechanism to recruit local firms to participate as project partners.

- Developing a system to select appropriate projects for project teams.

- Developing a strategic plan to enable C3 to become an informational clearinghouse on regional business issues and potential opportunities.

TEAM-BASED ACTIVITIES

In the third phase of training, participants were divided into teams that focused on project work, which was supposed to be the key to sustaining the Center and to reemploying individual project participants. The C3 work teams were intended to be the vehicle for practicing high-performance workplace skills as well as an opportunity for participants to develop viable new business enterprises or joint ventures that would lead to job creation or re-employment.

Although private-sector participation was substantially lower than anticipated, local firms were involved in two ways: (1) as recipients of core competency assessments conducted by C3 assessment teams; and (2) as sponsors of projects, such as specific market analysis, new product development and/or process improvement projects relevant to the sponsoring firms. Companies had to provide material support and staff liaisons for projects they sponsored, but did not have to pay for C3 team services.

OTHER SERVICES

The project did not provide basic readjustment or reemployment services. Although the objective of the project was to assist dislocated workers in securing work, planners wanted the participants to create their own new opportunities based on project work with private sector firms or the entrepreneurial skills they gained during training. There was no formal instruction in job-seeking skills. However the linkages between C3 and the university, the local Title III program, and community colleges (through the Board of Directors and Advisory Council/Industry Forum) did permit project participants access to some of these services elsewhere. The university, for example, provided career counseling to C3 participants; some participants also joined local "job clubs."

C3 did reimburse participants for project-related travel. Moreover, $55,000 in corporate contributions supported the granting of stipends to participants who had exhausted their UI benefits and had total household incomes under $20,000. Without these stipends, a number of participants would have been forced to withdraw from the project before completing training. As it was, the drop-out rate was significant—and increased over time, as participants exhausted their savings.

SERVICES PLANNED FOR PHASE II

The experiences of project planners in Phase I prompted them to make substantial changes in planning for Phase II. The second Phase was abandoned after several false starts, but since the project had already received second round funding, it did implement substantial changes in recruitment practices and planned service delivery before remitting the balance of the second round funds.

In planning for a Phase II training, C3 project staff proposed to amend the governing structure of the project, establishing an Industry Forum to replace the Advisory Council, thereby providing participants with technical and professional assistance in new business startups.

This new body was to be comprised of representatives from local small businesses and self-employed entrepreneurs. C3 staff felt that the new organization could provide meaningful guidance to the project as a whole, and that its individual members could serve as mentors for participants in C3 training programs, providing them with advice on new business ideas and access to professional networks.

The planned training curriculum for the second round of training was also changed substantially. First, C3 staff proposed to place increased emphasis on specific tasks involved in starting a business, such as writing the business plan, securing funding, addressing legal issues, etc. Second, project-oriented work was planned to be introduced earlier in the training program in order to increase the emphasis on practical skill development. Third, the project tried to design procedures to de-emphasize the short-term nature of project-work and to focus on developing ongoing partnerships between participants and local firms. C3 wanted participants to secure long-term or ongoing employment opportunities, rather than short-term finite work. Unfortunately, the second round of DCA-funded training never got off the ground, due to delays in recruiting state funds that were planned to complement the DCA demonstration funding. In April, 1995, C3 formally returned remaining Option Year funding to the Department of Labor.

OUTCOMES

The C3 project plan was among the most innovative of the DCA projects, but its overall objective, to revitalize the economy of the Southern Tier in three short years, may have been overly ambitious, particularly given the continuing decline in regional economic performance. Moreover, the project's difficulty in reconciling its short-term objectives with its long-term vision limited its effectiveness.

The table below summarizes the project's progress in reaching its stated demonstration objectives. Some of the more important outcomes are discussed in more detail below.

THE C3 PROJECT
PROJECT OUTCOMES IN RELATION TO OBJECTIVES

Objectives	Outcomes
Train 45 displaced workers in commercial competitiveness.	Objective met. Forty-five displaced workers completed ten weeks of formal classroom training in commercial competitiveness skills; 34 of these participants completed the entire nine-month training program.
Make training programs available for industry.	Objective met. C3 developed curriculum and made it available for replication.
Develop at least six work teams.	Objective met. More than six teams formed to work on projects. A few were still pursuing them at the conclusion of the project.
Do core competency assessments for participating companies.	Objective partly met. A C3 team conducted four core competency assessments., but planners had anticipated a higher level of firm participation.
Identify new markets for regional industries.	Objective partly met. C3 teams identified new markets for only a few (less than five) Southern Tier companies.
Identify at least three new products that could be produced by local industry.	Objective met. A few products (less than ten) were identified that could be made by local businesses. Most are low-technology, a few involve collaboration among regional industries.
Enhance cooperation between industry, academia, and government.	Objective not met. Active participation and collaboration with industry did not occur.
Plant seeds for cultural change in industry by training workers.	Unknown. High performance skills were strengthened through training workshops, relation to cultural change was never assessed.
Submit proposals for funding ideas generated in Phase I.	Objective met. Fourteen proposals were submitted to fund industry projects.
Achieve some business start-ups.	Objective partly met. At the conclusion of the first round of training, 20 participants reported that they were pursuing some type of consulting work or new enterprise development, either individually or in teams. Most of these projects, however, were abandoned in their infancy. At the conclusion of the project, approximately five were being pursued in some way.
Strengthen local companies through technology transfer among participants.	Objective not met. Companies did not work with each other to develop new products and identify new markets.
Facilitate communication between the public and private sectors.	Objective partly met. There was public-private support in the planning and early stages of the project, but support waned, forcing the project to change its focus.
Propose two joint ventures among participating companies for implementation in Phase II.	Objective not met, companies did not develop joint ventures with each other.

DEVELOPMENT OF TRAINING CURRICULUM

The project developed an innovative, replicable curriculum for training dislocated workers in commercial competitiveness, including HPWO skills, team-skills, and agile manufacturing practices, based on planners' beliefs that these skills would be crucial to success in the new workplace.

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Training, based on this curriculum, was delivered to 55 project participants. Of those, 34 successfully completed the entire nine-month training program.

TRANSITION TO EMPLOYMENT

At the completion, of the end of the first 18-months of operation, approximately 50 of the original 55 participants were employed, although our data do not indicate the length, quality (full- or part-time; temporary or ongoing) or wage-level of the participants' jobs, or the relation of these jobs to the team-based projects they participated in while in the project. In the absence of such data, we are unable to determine with any certainty the relationship between the C3 training and participant employment.

OPPORTUNITIES FOR PROJECT WORK

Of the 22 projects that were started during the demonstration period, a total of 13 were "sponsored" by the private sector, while nine were initiated independently by project teams.

Of the projects involving private sector firms only six produced results, and the results themselves were quite varied. One project team explored the idea of starting a consulting business to conduct core competency assessments. These assessments required team members to collect and analyze information about the firms, meet with firm representatives and production workers and evaluate firm facilities in relation to process goals. C3 had hoped that such assessments would lead to joint ventures between Southern Tier firms with complementary strengths, which would, in turn, help revitalize the region's economy. However, only four firms agreed to participate, even though the assessments were provided free of charge during the demonstration period.

Other projects explored a range of new ventures, including, for example:

- Exploring the feasibility of manufacturing and marketing a method for planning segments of a geodesic dome structure.
- Developing and marketing a "low-end" medical imaging system.

In terms of the team-based projects, approximately five ideas were still being pursued to varying degrees at the end of the first 18 months of project operation. These projects were quite diverse; they included the development of an information service that will provide information on "industry trends, procurement opportunities and competitive strategies" to small- and medium-sized firms on a subscription basis; the creation of a small business that would produce, market and distribute hydroponic gardening kits; and the establishment of a small business based on the production and distribution of an instrument, for home-use, designed to strengthen the eye muscles of individuals afflicted with dyslexia.

TEAM-SKILLS/CONFIDENCE

The project did achieve a number of less tangible outcomes. First, some participants reported that the instruction in HPWO and team-skills provided them with a new vocabulary to use while interviewing for new jobs. One participant felt that his HPWO training would give him an edge in competing for jobs against other similarly qualified job-seekers. Another indicated that the team training prepared him not only for the teamwork that took place as a part of the C3 curriculum, but also for employment in the non-defense sector where team-based work is more common. Several participants reported that the C3 training permitted them to "catch up" with people who had had formal training in modern business practices, and rendered them more competitive in a tight job market.

Another subjective but important outcome was the increased level of self-esteem among participants. This outcome was reported by staff and by participants themselves. Some participants had been out of work for some time before enrolling in the project. C3 staff noted that, particularly for these participants, establishing a daily routine, including interacting with people from diverse professional backgrounds and learning new skills, tended to renew self-confidence and increase self-motivation.

SUMMARY COMMENTS

Although C3 represented an innovative approach to a region-wide crisis precipitated by defense downsizing, the project failed to achieve some of its key objectives, and was unable to sustain itself in the long term. We believe that both internal and external factors interfered with the project's ability to achieve its objectives.

The most notable weaknesses of the project include the following:

- ***The level of private sector participation was substantially lower than planners had anticipated.*** The project was conceived as playing a unique role: planners envisioned training dislocated defense workers in HPWO and team-skills and then supporting them by identifying projects that would ultimately provide employment opportunities for them, and for other dislocated workers. This vision, however, assumed the active participation of regional private-sector firms which would provide (1) opportunities for participants to use their new skills through core competency evaluations or joint projects; (2) ideas or products that participants could pursue, either through contractual arrangements with firms or participant-initiated ventures; (3) financial support in the short-term, which would generate income for the Center and provide some form of reimbursement for participants; and (4) ongoing institutional support in the long-term which would help C3 achieve its objective of becoming a regional clearinghouse for information on local industry trends and consultation on conversion and workforce training issues.

  While there was evidence of such support in the planning stages of the project, it waned after the DCA grant was awarded—two of the three large local defense firms were bought out by other firms, and the economy worsened to such a degree that firms saw participation in C3 as a burden (taking time away from production) rather than an opportunity. This situation might have been prevented if planners had secured the support of a number of small- or medium-sized firms, on which the services of participants may have had a greater impact, than a few large firms.

- ***In the absence of private-sector participation, planners increased their emphasis on entrepreneurial training.*** When it became evident that firm participation was less than what had been anticipated, planners altered the training curriculum to provide more instruction in entrepreneurial skills than what had been planned. By that time, however, participants had already been selected on the basis of criteria that had little relation to entrepreneurial ability —few had ideas for new businesses because private-sector firms were supposed to have provided them. Trainers and C3 staff also had little experience in practical entrepreneurial skills. The early training, therefore, was highly theoretical and had little "nuts and bolts" content, (e.g., instruction in how to write a business plan, secure funding, obtain a license, etc.).

- ***The project experienced a high participant drop-out rate.*** The training program was lengthy—a total of nine months. Some participants were forced to discontinue participation for financial reasons; others found new employment opportunities; others had hoped to secure new jobs with participating private-sector firms, but when industry failed to support the project, these participants lost interest. Although the program recruited replacement participants to fill these slots, the retention problem raises questions about the appropriateness of the project's training program for large groups of dislocated defense workers.

- ***Planners may have duplicated services already provided though the local SDA.*** Because the project had not coordinated activities with the local SDA, an odd phenomena given the level of coordination with other public and private entities, it was apparently unaware that it was reinventing an entrepreneurial program that was already available to the same participants through the Binghamton SDA.

FACT SHEET: DEMONSTRATION PROJECT

THE INTERNATIONAL ASSOCIATION OF MACHINISTS AND AEROSPACE WORKERS (IAM)

Project Location	Burbank, CA	*Grantee*	IAM Lodge 727
Type of Approach	Combined Dislocation Aversion and Worker Mobility	*Project Administrator*	Verdugo County Private Industry Council (PIC)
Period Covered by Grant	November 1992–December 1995	*Key Contact(s)*	Dan Nakamoto, Research Director, IAM Lodge 727
Grant Amount	$500,000	*Geographic Area*	Southern CA

Context

The economy of the State of California has absorbed a significant proportion of the reductions in national defense spending since 1988. Much of the resulting job loss has been concentrated in southern California, home to several major defense-dependent aerospace firms. Between 1987 and 1991, 20% of the region's 375,000 aerospace jobs were eliminated. In the context of the nationwide shift away from heavy manufacturing that had already caused disruption in the local economy, planners realized that it was unlikely that dislocated aerospace workers would be reemployed in comparable jobs without substantial training.

Primary Goals

The IAM project was first conceived as an effort to train dislocated workers for new jobs in the growing advanced transportation industry, particularly in prototype development for electric vehicles. After it became apparent that these jobs were not yet available, the project focused on providing training to dislocated workers in job-search and basic skills, and helping defense firms preserve jobs by converting to commercial markets. The project sought to:

- Place trained dislocated defense workers in jobs with local composites manufacturers.
- Train at-risk workers in skills that would support their firms' conversion to commercial markets and enable them to retain their jobs.

Key Players

- **IAM Lodge 727** — Formal grantee and coordinator; recruited firms for participation in project.
- **Verdugo County PIC** — Primary fiscal administrator; recruited participants from its Title III programs and provided basic readjustment and supportive services.
- **Service Providers** — Specialists from California State University at Los Angeles and Glendale Community College served as consultants in the design and delivery of training and the development of conversion strategies.

Significant Outcomes

- Some dislocated workers were placed in new jobs through the projects, but the jobs were frequently unrelated to their training.
- The level of private sector participation was disappointing, but two enrolled firms were able to retain their workforces through the life of the project; one of these began hiring new workers.

INTERNATIONAL ASSOCIATION OF MACHINISTS AND AEROSPACE WORKERS DEFENSE CONVERSION ADJUSTMENT DEMONSTRATION

Burbank, California

THE CONTEXT

Until the late 1980s, Los Angeles was one of the nation's most productive regions in defense aerospace manufacturing. At its peak, 80% of California's 375,000 aerospace jobs were located in the region. When layoffs associated with defense cutbacks hit aerospace firms, southern California's economy was seriously affected. Between 1987 and 1991, aerospace employment in Los Angeles dropped by over 20% (compared to a national drop of 11% over the same period). The International Association of Machinists and Aerospace Workers (IAM), headquartered in Burbank, California, was watching the mass layoffs with concern for the current jobs and future employment opportunities of its members. As a result of reductions in defense contracting, nearby Lockheed laid off 8,000 workers, and McDonnell Douglas cut 2,000 employees from its rolls, many of whom were IAM members. Recent estimates indicate that the region's job losses in aerospace may reach 200,000 or over 50% of its 1987 employment levels.

The reductions in defense-related employment constituted only one of a series of setbacks for the region. The sheer number of workers laid off from aerospace manufacturing only exacerbated the effects of the structural transformation from heavy industry to services that was occurring even before defense cutbacks. Further, much of the military and commercial manufacturing that might have provided replacement jobs to impacted defense workers moved to other states or countries. Throughout the Los Angeles (L.A.) basin, unemployment soared to nearly 10% and hovered there until 1994, when it declined to around 8%. Despite the mass layoffs in aerospace, the Los Angeles area's economy has been steadily recovering since 1994. Although much of the manufacturing base is gone, L.A. has a steadily growing economy of small companies involved in high technology and services. Entertainment, computer software, multimedia production, finance and trade are all growth industries. Unfortunately, the skill mismatch between these occupations and the skills of dislocated defense workers is extreme. Without extensive training, dislocated workers are not likely to find jobs with adequate pay and benefits.

GOALS AND STRATEGIES

The demonstration was initiated by IAM District 727 and planned with the Verdugo County Private Industry Council (PIC). The union operated its own transition assistance center for dislocated union members and had worked with the Verdugo County Private Industry Council (PIC) to respond to layoffs at Lockheed, McDonnell Douglas, and elsewhere. IAM was very concerned about the plight of dislocated defense workers, because the union was unable to find replacement jobs for them. The key challenge to placement for dislocated production workers was the lack of job growth in manufacturing. As the IAM planner summed it up, "[W]e could no longer just sit back. We had to be creative and look for avenues of job creation." The union was working closely with an initiative called CALSTART to develop electronic vehicles as a growth industry for California. Union planners hoped to design the project around CALSTART and its small business "incubators" to generate training and jobs for workers dislocated from nearby aerospace companies.

IAM's original worker mobility project strategy and goals changed substantially about a year into the grant period. The original innovative design was to provide training for nearly 300 dislocated aerospace workers who would be employed by new, high-tech firms in prototype development for the advanced transportation industry. Training would benefit both the new firms and workers by emphasizing High Performance Work Organization (HPWO) skills and highly specialized skills in composite manufacturing, which were needed to develop low-polluting, alternative fuel vehicles. Production of these vehicles was needed to help California achieve low emission standards. Unfortunately, implementation of the federal emission standards was postponed, causing delays in research, production, and financing for CALSTART and its affiliates. Faced with delays in the development of new jobs in the advanced transportation industry, IAM amended the demonstration's approach to include a combination of worker mobility and dislocation aversion strategies, with dislocation aversion receiving more emphasis. The number of participants that the project hoped to train was also adjusted downward, to between 100 and 300 at-risk or dislocated workers.

The overall mission of the IAM demonstration was to change the culture of production at participating firms, promoting efficiency and increasing effectiveness by training newly hired dislocated defense workers or existing employees of defense-dependent firms in commercial production techniques and HPWO skills. The project's key objectives were to (1) employ dislocated defense workers and (2) keep at-risk defense industry workers on the job by helping firms succeed in the commercial marketplace. These objectives were to be accomplished by supporting workforce training that complemented firms' transition strategies. IAM specified seven outcomes from worker training necessary for producing a cultural transformation to commercial production:

- Trainees will be qualified to organize consumer-driven production;
- Trainees will be qualified to use whatever technology is needed to build innovative prototypes;
- Trainees will be qualified to use data and information to help companies achieve their goals;
- Skills acquired by trainees will be portable—usable in a number of work contexts;
- Labor agreements with participating firms will encourage portable employee benefits;
- Trainees will be inspired to improve productivity and quality in exchange for job security;
- Trainees will be wholly familiar with information systems, including cost analysis, that enhance manufacturing competitiveness.

KEY PLAYERS

Key players in this project included: (1) the International Association of Machinists (IAM), (2) the Verdugo County Private Industry Council, (3) the individual firms recruited to participate in the project, and (4) training consultants from two local universities.

International Association of Machinists (IAM) Lodge 727 was the demonstration grantee and was instrumental in designing and implementing the project. IAM staff oversaw the day-to-day operations of the demonstration and had the primary responsibility for recruiting firms and arranging for educational institutions to provide management consulting assistance to firms in transition as well as training to at-risk and dislocated workers. Once among the most powerful union organizations in the country, IAM's membership declined sharply as a result of the losses in aerospace manufacturing and reduced defense spending. Members of the local lodge were among the 10,000 Lockheed and McDonnell Douglas workers laid off between 1990 and 1993. IAM continued to operate a job assistance center for union members and had previously worked closely with the Verdugo County PIC to respond to layoffs and provide assistance to dislocated union workers.

The Verdugo County Private Industry Council served as the administrative entity for the project, with responsibility for documenting participant eligibility, tracking participants, and providing fiscal management and oversight. In addition, Verdugo County PIC helped select dislocated workers (from its pool of Title III enrollees) for demonstration activities and was available to provide basic readjustment and supportive services to dislocated workers using Title III funds. The chair of Verdugo County PIC's Labor Management Committee also advised IAM and participating firms on demonstration activities.

Local universities also helped provide training to firms and workers. As IAM expanded its demonstration to include at-risk firms, it realized that industry experts in commercial production and training were needed. This was particularly true for smaller firms that required help developing strategic plans for transition and coherent plans to train workers. Consultants in industrial technology and training were added to the project team from the engineering department of **California State University at Los Angeles (CSLA)** and **Glendale Community College's Professional Development Center**. Depending on firm needs, consultants assisted managers to develop strategies for transition; designed, conducted, and oversaw training for employees; and monitored progress in implementing plans for transition.

THE IMPLEMENTATION EXPERIENCE

Throughout the project, progress in achieving IAM's goals was slow and characterized by many disappointments and the need for fresh starts. After the project's first eighteen months, despite many different efforts to recruit firms and begin training, only one firm had started training for at-risk workers. The project received DCA grant extensions to continue operations through September, 1995. During the last year of the project, two additional firms started training, including one serving dislocated workers.

WORKER MOBILITY APPROACH

This section of the profile describes the project's efforts to train dislocated workers for jobs in industries that fabricate products using composite materials.

RECRUITMENT AND SELECTION OF FIRMS

The original firms targeted for the demonstration were start-up firms in the CALSTART initiative that could use dislocated defense production workers and engineers with relevant prototype development and manufacturing experience to help develop electric vehicle prototypes. When the CALSTART strategy stalled, IAM had to develop a new strategy for recruiting firms. Although much of the project's energy was transferred to the search for defense-dependent firms interested in conversion, the project continued to search for individual firms in the CALSTART consortium that offered some promise of placing dislocated defense workers. IAM looked favorably on firms that offered the potential for leveraging additional public funds from other sources. Ultimately, only one start-up firm within the CALSTART consortium participated in the project.

Throughout the project, staff worked closely with Hub Engineering, a small start-up company formed by two former defense industry engineers who developed an automated manufacturing system for composites. These individuals planned to apply their specialized manufacturing process to production of components for electric vehicles, where it had the potential to reduce manufacturing costs. The firm wanted to train and hire about 40 dislocated defense workers under the demonstration. At the time the firm entered the demonstration, it did not yet have production orders or a facility ready for training and production. The firm applied for funding from a number of sources that never materialized. As a result of lack of funding to develop its own processes for electric vehicles, Hub Engineering modified its training program for dislocated workers.

The company instead would provide trained workers with experience in composite manufacturing to employers that use these processes in commercial industries. While it was hoped that these companies would hire workers after training, neither Hub Engineering nor IAM knew much about the demand for workers in composite manufacturing. Hub Engineering identified a cluster of 28 companies that use composites in manufacturing, including firms producing medical equipment, aircraft parts, sporting goods, and boats. Many of these companies offered guidance about training curricula and agreed to consider trainees for jobs.

RECRUITMENT AND SELECTION OF WORKERS

Hub Engineering targeted dislocated defense workers with composite materials manufacturing experience. The company sought the most motivated and experienced workers from the applicant pool and worked with Verdugo County PIC, the Employment Service, and the union to identify qualified dislocated workers. Many of the potential participants came from layoff lists maintained by these organizations. The company sent letters to laid-off members of the IAM and sent flyers to PIC, Employment Service, and union offices about the special training program. About 200 people with some experience in composite manufacturing were identified, and Hub Engineering interviewed nearly 50 people to assess their readiness for the training program. The company found that many potential participants had been out of work for several years, often in stop-gap jobs unrelated to their manufacturing experience. The project selected 15 participants for the first round of training and planned to provide training to a total of 40 to 50 dislocated workers.

SERVICES PROVIDED TO WORKERS

Hub Engineering designed training to provide a three-course sequence of instruction for improving workers' manufacturing skills in industries that use composites. Training included (1) composite manufacturing, (2) concurrent engineering, and (3) computer literacy. Trainees attended classes for five hours, five days a week for four weeks. Companies identified by Hub Engineering were informed about the training program and contacted about job openings for participants once they completed training.

Trainees were also coenrolled in Verdugo PIC's Economic Dislocation and Worker Adjustment Assistance Act (EDWAA) program. They were eligible to receive additional basic readjustment services, including career counseling, job search assistance, supportive services, and help with placement, if needed. Project staff noted that Verdugo PIC was particularly helpful in providing current information about job openings that might be appropriate for trainees.

Results from the first round of training at Hub Engineering were quite disappointing. Placing participants was a very slow, painstaking process. The relationship that the company developed with other composite manufacturing firms netted few jobs for the trainees. Many of these companies provided inadequate wages, benefits, or poor working conditions for their employees. Those that Hub Engineering found to be appropriate for dislocated workers typically had no job openings. The project eventually found new jobs for about two-thirds of the first group, but it was not clear to what extent the training they received helped these participants. Thus, after all of the effort to enhance the skills of dislocated workers, the project found that there was little demand for highly skilled workers in composite fabrication.

Placement was not the only weakness of this training design. The training curricula did not address workers' specific needs. Workers recruited into training had been laid off from their jobs for several years and typically needed help with job search and interviewing skills as well as enhanced technical skills. Staff discovered that some workers simply couldn't express themselves during interviews or had trouble writing effective resumes. There were problems with the technical courses as well. The computer course, for example, was taught on personal computers rather than on the computer-numerical-control (CNC) interfaces typically used in manufacturing. Training also failed to provide participants with the level of computer machining skills that employers required.

IAM responded to these poor results by redesigning services to better meet the needs of the nearly 30 dislocated workers who were still scheduled to receive training. A new program called the Open Architecture Project was developed. It differed fundamentally from the original Hub Engineering design in that it provided readjustment assistance that participants needed. In addition, the curriculum was redesigned to increase the CNC machining content. First, the project offered participants the option of enrolling in an introductory computer machining course at a local community college. Next, the IAM hired two readjustment counselors to help provide one-on-one counseling, job search training, and job development for trainees. Third, IAM required all participants to attend an interviewing skills seminar that included substantial coaching. And finally, Hub developed a series of job seminars that featured people with knowledge of employment opportunities for machinists in specific industries, such as aerospace, biomedical equipment, sporting goods, and high-tech manufacturing.

Although the Open Architecture Project improved readjustment services and provided more relevant technical skills, preliminary information suggests that placement for the second group of participants continued to be difficult despite the program enhancements.

THE DISLOCATION AVERSION APPROACH

This section of the profile describes the project's activities to prevent layoffs by assisting three defense-dependent firms with conversion and providing workforce training to support these efforts.

RECRUITMENT AND SELECTION OF FIRMS

To recruit defense-dependent firms interested in conversion, IAM relied heavily on existing relationships with companies employing IAM members. The project staff recruited only those defense firms with IAM representation. Among these firms, the project wanted those that demonstrated: (1) good labor-management relationships and (2) a commitment to involving the workforce in designing and implementing training. Participating firms needed to be in the defense industry and at-risk of laying off workers. IAM generally wanted to find firms that offered some hope for successful transition to or expansion of commercial markets. As with the firms involved in the worker mobility approach, they also looked for firms that had the potential to leverage additional public funds through other federal or state grants, to increase the scope of any job retention efforts.

CHARACTERISTICS OF PARTICIPATING FIRMS

The table below presents the three Los Angeles area firms that received DCA-funded training. As a result of IAM's selection process, the three firms recruited for the project employed IAM members and had generally good working relationships between management and union staff. All of the recruited companies had experienced layoffs shortly before joining the demonstration. Otherwise, each of these firms is very different in terms of its size, stage reached in the defense conversion process, and level and types of assistance needed to support conversion plans.

THE IAM PROJECT
PARTICIPATING FIRMS

Name of Firm	Number of Employees	Product Description
Air Transport Manufacturing	20	Military hardware: brackets, braces, housing for electronic components.
HR Textron	737	High-precision servo control valves and assemblies for aircraft.
WesTech Gear Corporation	164	Large, high-precision gears, engine reduction equipment, and pipe tensioning rigs.

The smallest firm was totally dependent on defense and had only a year's backlog of work remaining at the time it entered the demonstration. The firm's production facility used out-of-date machines and manufacturing methods. This firm also had little experience with financial planning, record keeping, or scheduling shipments and deliveries. Thus, this firm had extensive transition needs, including management assistance to develop a strategy for conversion, employee retraining, and substantial facility upgrades.

In contrast, management at the two medium-sized firms was actively involved in planning for the higher volume production needed in commercial industry. These firms had developed substantial commercial business, although the majority of sales for both was in defense. Both employed modern manufacturing technology and processes and both were committed to investing in technological upgrades to improve work efficiency.

SERVICES PROVIDED TO FIRMS

The broad mission of the IAM project was to produce widespread cultural changes to support high performance work organization skills among all companies participating in the demonstration. Therefore, IAM's preferred training approach was to target instruction to all production-line employees. In addition, managers and supervisors were encouraged to attend training on the importance of HPWO and teamwork skills. Additional training in support of individual firm transition needs was targeted to appropriate workers at each firm.

To assist participating firms that needed help with their conversion plans prior to training, IAM paid for a broad range of management consulting services, including: (1) an assessment of the company's capacity to diversify; (2) assistance developing strategies for conversion; (3) an assessment of workers' skill needs; (4) assistance planning and developing curricula for workforce training; and (5) follow-up guidance after training was completed. IAM obtained the help of industrial consultants and educators at California State University, Los Angeles and Glendale Community College to provide management assistance to the participating firms and to provide instruction in HPWO skills. Each institution had the capacity to provide individual consulting and instruction to managers on developing strategic plans for conversion, as well as curricula and instruction in high performance workplace skills, and skills needed for technological upgrades.

The participating firms needed varying amounts of management assistance, depending on the extent to which they had already completed strategic planning for conversion. Air Transport Manufacturing required extensive consulting services to identify its conversion and training needs. An industrial consultant from California State University, Los Angeles provided information on strategies for conversion, assessed the facility's need for modernization, and provided one-on-one management training. The consultant found that the firm needed extensive assistance in planning for technological upgrades; therefore, the university's Manufacturing Technology Center was recruited to help assess its manufacturing capacity and needs and assist with upgrading and training workers on new, computerized, equipment. In contrast, HR Textron and WesTech were much further along in their strategic planning. HR Textron, in particular, had already made substantial progress in its own transition planning and initiated the effort to recruit its supplier firms to help them plan for conversion. The project provided some consulting services to these firms to select appropriate training curricula and develop a suitable instructional design.

SERVICES PROVIDED TO WORKERS

The core training envisioned by IAM to support the transition goals of these firms was training in high performance workplace organization and teamwork skills. The project requested that each firm address a similar range of training issues, including:

- Consumer-driven production.
- Innovative production, including prototype building and problem solving.
- Data analysis to solve problems.
- Information systems skills.
- Development of flexible skills, and the ability to shift readily from one task to the next.
- Efficiency of labor and management interactions, thereby reducing the cost of components and the cost of production.
- Understanding the linkages between improved productivity, quality and job security.

Few of the participating firms, however, integrated all of these concepts into a cohesive instructional design. The experience of delivering training to at-risk workers is described for each firm below.

Air Transport Manufacturing. After joining the demonstration, Air Transport Manufacturing Company received assistance from an industrial consultant at California State University, Los Angeles on strategies for conversion to commercial markets, including the need for facility modernization, management training in commercial practices, and workforce training. The consultant helped the firm plan for a math/blueprint reading course for its workers, as a first workforce training activity. However, just as the blueprint reading course was about to begin, the firm had a financial crisis: its major defense-related contract, accounting for over 40% of its overall business, was cancelled.

In reacting to this crisis, the firm's president laid off some workers without notifying IAM first. Distressed by this action, IAM did not feel able to continue working with the company. Manufacturing Company was terminated from the demonstration. Although friction between the company management and the union exacerbated this difficult situation, it is not clear whether Air Transport Manufacturing could have been a successful participant in the demonstration, given the serious conversion challenges it faced.

The key lesson IAM staff learned from its experience with this firm was that it needed a more thorough and explicit assessment of whether firms were ready to participate. The consultant acknowledged that working with such a small firm was risky. At the time it entered the demonstration, the company had no business systems in place that might have been used to analyze finances or to schedule product shipments. Production facilities and methods were also outdated. Most tellingly, the company perceived workforce training as an expense, and never demonstrated that it was willing to invest in its workers. The company, as the consultant saw it, was a small "job shop"; as long as it had work, there was no incentive to change.

HR Textron. HR Textron came the closest to implementing an integrated training design as envisioned by IAM. The firm was very active in working with consultants to develop a training curriculum that not only was to be used for its own employees, but was also planned for use by employees of supplier firms. This training curriculum included four courses: (1) worker empowerment; (2) just-in-time manufacturing; (3) commercial product quality; and (4) concurrent engineering. Workers were to receive 50 hours of instruction and agreed to a 50/50 arrangement in which the company would pay workers for half of the time off for training if workers volunteered to work additional hours to cover the other half of time off for training.

HR Textron's training was planned in two phases to accommodate a quasi-experimental design and to pilot-test the training for the rest of HR Textron and its supplier firms. A first group of approximately 113 HR Textron workers, supervisors and managers from one division (the servo valve assembly division) was scheduled to receive training in the four areas described above. Their performance was benchmarked and compared to that of workers in other divisions who were not scheduled for training. The firm planned to use the results to refine the training design for the rest of the company's 700-plus workers as well as workers from other supplier firms.

Training at HR Textron got off to a quick start, facilitated by new management hired to lead the work of the pilot division. Between February and June 1994, HR Textron completed the worker empowerment and just-in-time manufacturing courses for its pilot division. As part of the training, workers took on greater responsibility for managing and completing their jobs; supervisors and managers were given new roles as facilitators; and a culture of teamwork began to develop in the pilot division. Anecdotal reports from workers and managers about greater enthusiasm and cooperation was backed by preliminary data that indicated the pilot division's productivity had increased by twenty percent. Managers at HR Textron credited the performance of the servo valve division with providing the competitive edge needed to win new contracts.

A series of delays and management changes, however, ended training at HR Textron before it was completed. While management was pleased at the increase in business and attributed the increase in sales to its new reputation for getting work done efficiently, training had to be interrupted until enough new workers could be hired to allow others to attend training. Training was further delayed due to contract negotiations with the union. IAM staff felt they could not support workforce training while they were in the midst of negotiations with management. Finally, the top managers who supported training and invested heavily in altering the production culture for the servo group were promoted and transferred from the Los Angeles site to the parent corporation in Delaware. New managers supported more traditional production approaches and decided not to continue the training project.

The changes at HR Textron were not without costs. Strong resistance to the new production design in the servo valve division was demonstrated by middle-level managers who felt threatened by the changes. Many did not support the pilot division, even though production had increased and workers showed greater enthusiasm on the job. IAM staff attributed new management's decision to stop the project to resistance from middle-level managers.

WesTech Gear Corporation. WesTech was preparing its workers to qualify as an ISO 9000 company, which would help the firm introduce products in Europe. The company planned a two-pronged approach to diversification: invest in new technologies to improve the efficiency of production, and invest in worker training so workers can learn faster and adapt to new work processes. An internal worker-management committee reviewed workers' skills and company needs and found that many workers needed better language skills to communicate effectively, improved math skills and enhanced technical skills. IAM assisted the company to develop training capabilities by purchasing computer learning labs and software to support the company's training needs.

Approximately 30 employees took advantage of training at the on-site learning center. Employees were given two hours each month of paid time off for training and asked to volunteer an additional hour of work for one of these hours. All had to complete core training modules in math, English, geometric dimensioning and tolerancing before moving on to learn additional technical subjects. The pace of training was slow for many participants. The time provided for training was relatively short, so many participants attended before or after their shifts. Yet some workers were often too tired from working overtime to take any additional time for training.

Training at WesTech started late in the demonstration. Although few participants had completed the core coursework by the end of the project, the facilities continued to experience a high volume of use, and workers continued to progress towards completing their courses when the project ended.

OUTCOMES

The project's immediate goals were to provide training for between 100 and 300 workers and place dislocated union workers or retain at-risk union workers in their jobs. IAM hoped to accomplish these goals by fundamentally changing the culture of production at firms, as indicated by specific training outcomes. Overall, the project was unable to achieve its goals. Training for at-risk workers was incomplete at all of the participating firms. It was unclear whether the training provided to dislocated workers was relevant for the jobs that participants obtained. These objectives and their outcomes are summarized in the following table.

THE INTERNATIONAL ASSOCIATION OF MACHINISTS AND AEROSPACE WORKERS (IAM) PROJECT
PROJECT OUTCOMES IN RELATION TO OBJECTIVES

Objectives	Outcomes
Short-Term Project Objectives	
• Place dislocated defense workers in new or existing innovative non-defense firms.	• Objective partially met. Between 40-50 workers received training. Number of placements unknown.
• Keep at-risk defense workers employed by helping firms diversify into commercial production.	• Objective partially met. Layoffs stopped at two firms and one of these firms began hiring workers again. A third firm was terminated from the project after it laid off workers while receiving demonstration services.
Long-term Project Objectives	
• Trainees qualified to organize consumer-driven production. • Trainees qualified to use whatever technology is needed to build innovative prototypes. • Trainees qualified to use data and information to help companies achieve their goals. • Skills acquired by trainees usable in a number of work contexts. • Labor agreements with participating firms to encourage portable employee benefits. • Trainees inspired to improve productivity and quality in exchange for job security. • Trainees wholly familiar with information systems, including cost analysis, that enhance manufacturing competitiveness.	• It was unclear to what extent, if any, these long-term training objectives were met. The project collected insufficient information about workers' skill gains and the impact of these gains on productivity. • Preliminary information from HR Textron indicated many of these objectives were on their way to being met when the training was abruptly halted. Training gains, however, may have been reversed with the decision not to continue the training. • Workforce training at WesTech Gear was at a very early stage and focused on giving workers the skills they needed to begin addressing workplace efficiency and productivity. Thus, training had not yet fully integrated these objectives at the time the project ended.

SUMMARY COMMENTS

This union-led project experienced substantial difficulty in starting up and completing training projects. However, it showed remarkable adaptability and an ability to evolve in response to uncertainty and change. Highlights of this experience include the following:

- ***IAM's initial design for linking dislocated defense workers to an emerging growth industry was highly innovative.*** The electric car industry appeared to be a good match for

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the transferable skills of dislocated defense aerospace engineers and production workers. Unfortunately, this strategy was not successful, due to the absence of new jobs in the targeted industry. Thus, the IAM project's approach evolved out of necessity into training for both at-risk and dislocated union workers.

- ***The flexible IAM approach to dislocation aversion allowed the project to recruit and serve firms at very different stages in the conversion process.*** Firms that needed management assistance with strategic planning for conversion were able to receive help in this area. Firms that were ready for workforce training could proceed directly to training. Yet at the same time, the project needed to more thoroughly assess firms' readiness for participation . The project's greatest opportunities for success occurred with firms that already had clear conversion strategies.

- ***Disappointments and delays in the project were caused when firms interested in participating failed to receive other grants with which IAM planned to leverage project activities.*** Thus, although IAM tried to leverage other funds to increase the scope of its project, this strategy had the unintended effect of repeatedly delaying implementation of the DCA demonstration project. The large-scale research and development funding for the electric car industry to support the CALSTART consortium did not materialize when expected and Hub Engineering failed to win grant awards from several sources.

- ***IAM's strategy of recruiting firms with union members that had good labor-management relationships helped in both planning and implementing training.*** Training designs at both HR Textron and WesTech emphasized skills workers needed to improve productivity. These initially good labor-management relationships, however, did not guarantee project success, and ultimately, differences between the union and management created tension at HR Textron as well as at Air Transport Manufacturing Company.

- ***Dislocated workers recruited into the project benefited from IAM's leadership.*** IAM worked with Hub Engineering to improve the design for training dislocated workers. Project staff also imposed stringent hiring guidelines for wages, benefits and working conditions to prevent potential employers from exploiting the fact that these long-term unemployed workers would be eager to find any job in manufacturing.

- ***The partnership between IAM and the Verdugo PIC helped in delivering traditional readjustment services to trainees.*** This was an important fall-back option for the project, which was looking for ways to serve dislocated workers in the absence of demand for their skills by innovative start-up companies.

- ***The role of IAM in the demonstration strongly influenced the project's evolution and outcomes.*** First, recruitment was limited to firms that employed union members. Participation was further limited to those firms where management had good working relationships with the union. For the most part, this helped speed the delivery of training. However, IAM's role as a worker advocate sometimes conflicted with its role as the DCA grantee. Training was interrupted at both Air Transport Manufacturing Company and HR

Textron because of union contract negotiations or concerns about management's commitment to workers. In both instances, IAM was unable to follow-up on training results because of the tension with these firms. And finally, the union's manufacturing orientation may have limited the scope of job development. Placement strategies continued to focus on jobs in manufacturing, despite great uncertainty about the demand for workers in these jobs.

This project's experience delivering services to both dislocated and at-risk union members suggests a number of important lessons.

- Projects serving both at-risk and dislocated workers need to develop clear goals and measurable outcomes. The IAM project's broad objective was to change the culture of productivity to support diversification into commercial markets. While the project identified training outcomes to support such a cultural shift, data were not obtained by the grantee to indicate whether a cultural change had occurred.

- Assessments of participating firms are crucial for program success. This project did not develop explicit criteria for determining whether firms were committed to workforce training and prepared to do so. As a result, companies participating in the program varied considerably in their ability to train workers effectively for commercial production.

- Projects for at-risk workers need to ensure that management is committed to training. The experience at two firms indicates that both top-level and middle-level managers need to support the goals of transition and diversification. Without this level of support throughout the company, training gains are likely to be reversed.

- Projects need to secure adequate program funding. The grant amount should either cover the project's costs, or additional funding should already be committed to the project. In this project, plans to work with specific firms were often contingent on their ability to obtain unsecured funding from other sources. Such funding rarely came through or was received in lower amounts, making it difficult to achieve project outcomes at the scale that IAM envisioned.

- Training and placement should emphasize skills for jobs that are in demand. Throughout this project information about jobs for which workers were being trained was inadequate. The project attempted to enhance workers' previous manufacturing skills, but little was known about whether such enhancements would improve their employment potential. Further, little was known about whether these jobs offered adequate wages and benefits.

- Grant operations should be administered by a neutral authority to avoid conflicts of interest. In IAM's case, the union had to delicately balance its role as a workforce advocate with its role as grant administrator.

FACT SHEET: DEMONSTRATION PROJECT

MILITARY CERTIFICATION DEMONSTRATION (MILCERT)

Project Location	Clemson, SC	*Grantee*	College of Education, University of Clemson
Type of Approach	Worker Mobility	*Project Administrator*	Same as grantee
Period Covered by Grant	November 1992–June 1996	*Key Contact*	William Leonard, MilCert Project Director
Grant Amount	$967,891	*Geographic Area*	State of South Carolina

Context

South Carolina suffers from teacher shortages in a number of K-12 subjects, particularly math, science and foreign languages. Moreover, the state's high percentage of minority students and low percentage of minority teachers renders minority teacher candidates in high demand. In view of this need for qualified educators, project planners hypothesized that commissioned and non-commissioned officers and other enlisted personnel dislocated from domestic and overseas U.S. military installations would be interested in second careers as teachers in South Carolina.

Primary Goals

Project planners targeted military personnel with good leadership skills for participation in an existing high quality teacher certification program at Clemson University. The project sought to:

- Assist interested applicants in assessing whether they met the entry requirements for Clemson's teacher certification program and completing pre-requisite courses, if needed, at one of the local community colleges designated as an "adjunct institution" for the demonstration.
- Enroll 50-75 participants per year, 20% of whom would be minority.
- Design and implement paid teaching assistantship positions as an alternative to unpaid student teaching internships.
- Achieve a 98% placement rate.

Key Players

- **College of Education, Clemson University** — Formal grantee: provided financial and administrative support to the project and housed the program office.
- **Adjunct Programs** — MilCert worked with eight adjunct educational institutions that provided preparatory courses to participants before they enrolled in the Clemson program.

  Other Public Partners — MilCert worked with another federally funded program, "Troops to Teachers," that provided stipends and support for participants.

Significant Outcomes

- Project enrolled 34 participants over the program's three years.
- Project assisted 11 individuals in securing paid internships or student teaching positions.
- Two project participants are currently teaching in South Carolina; nine others may become employed during 1996.

THE MILCERT PROJECT
Clemson, South Carolina

THE CONTEXT

South Carolina, like many states, suffers from teacher shortages in a number of K through 12 subjects, including: special education, mathematics, biological, earth, and physical sciences, industrial technology, and French and Spanish. In 1992, for example, South Carolina needed over 3,000 certified teachers to fill vacancies in these subjects. The state also has a high proportion of minority students who would greatly benefit from the encouragement and inspiration of minority teachers with strong leadership skills. Yet there are few minority teachers, particularly African American men, to serve as role models for these youth. MilCert was designed to help address these needs by assisting former members of the Armed Forces start teaching careers in South Carolina.

The force reductions in defense provided just the right backdrop to help educators garner support for an alternative teacher certification project in South Carolina. Early predictions warned of severe consequences from military downsizing. The Department of Defense estimated that the state, comprising about 1% of the nation's population, would bear approximately 2% of national military dislocation through 1997. All told, the state was preparing for the release of about 26,000 service members around the state. These "worse case" predictions helped to galvanize support for worker mobility programs.

The actual effects of military force reductions, however, were not nearly as severe as predicted. Even though by late 1995 the military services had reduced the nation's military strength by nearly 500,000, a large portion of these separations were achieved through natural attrition—retirement and military members completing their tours of duty. South Carolina also experienced fewer military layoffs than anticipated. The effects on the state's 40,000 active duty personnel were mitigated by the way services reorganized; cuts in military staff at one base were offset by additions at other bases around the state.

GOALS AND STRATEGIES

MilCert was developed by the project's Principal Investigator, who taught education courses at a nearby Air Force base. During these visits, he discovered that non-commissioned officers spent much of their time training young enlisted men and women and counseling them about life and work. It takes primary and secondary educators years to refine these crucial mentoring skills, yet here was a pool of men and women who had already mastered them.

The MilCert project was based on the premise that senior enlisted personnel and officers possessed the leadership needed in the state's K-12 schools. As some of these individuals were forced or enticed to leave the service, they might look to education for second careers. Although MilCert was not the first or only alternative teacher certification program for service members in the country, other programs targeted officers or limited eligibility to enlisted people with college degrees.[1] MilCert's key innovation was that it specifically targeted senior, non-commissioned officers regardless of whether or not they possessed a college degree.

MilCert's goals were designed to benefit South Carolina schools and students as well as separating service men and women. As stated by project staff, the project's key purposes were "(1) to invent a pathway to quickly and economically move interested ex-service members into South Carolina Schools as fully certified teachers, and (2) to fill critical shortages in South Carolina Teachers."[2] To achieve these goals, MilCert modified the design of the university's traditional system of teacher preparation. Rather than obtain classroom experience through unpaid student teaching, MilCert participants would enter South Carolina classrooms as paid interns once they completed their coursework and met other mandatory state requirements for certification.

The project originally planned to achieve 75 enrollments per year. However, early in the demonstration the project encountered difficulties identifying and recruiting eligible participants. After the project had operated for 17 months, staff submitted a revised Statement of Work, which formalized MilCert's new targets for enrollment and contained additional operational objectives for the remainder of the project. These objectives are specified in the list below.

- Make 2,400 contacts
- Enroll 50 participants per year
- Resolve 60-75 contacts to other outcomes
- Evaluate transcript of 500 applicants
- Limit attrition to 2%
- Employ 98% of enrolled participants
- Obtain 20% minority enrollment

KEY PLAYERS

MilCert was planned and operated by staff from the College of Education at Clemson University. The college obtained the support and cooperation of several other university offices. College staff also developed key support from several state organizations to aid in recruitment, hiring and placement, and to obtain authorization for the conditional certification that participants would need in the internship phase of their programs. As the project progressed, MilCert developed relationships with a number of schools, some of which became "adjunct" MilCert programs with enrolled project participants.

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[1] These earlier programs tended to be located in cities with large military populations, like George Washington University's Crystal City Program, the Military Career Transition Program at Old Dominion University in Norfolk, Virginia, and the Second Career as a Teacher program at Jacksonville University, Florida. (MilCert comments to Berkeley Planning Associates (BPA), March 6, 1995).

[2] Leonard, William and Kenneth Weaver, "Defense Conversion and Military Staff Dislocations," in Best Practices in Defense Conversion, Karl F. Seidman, Ed. National Council for Urban Economic Development, D.C., 1994.

MilCert Staff. The project was primarily conceived of by a professor in the College of Education, who served as the project's principal investigator and director. Two key staff members ran the day-to-day activities out of the MilCert office, located in the university's College of Education. The project administrator, a retired Air Force officer working on his Ph.D. in education, coordinated project activities and helped refine the project as it evolved. A readjustment coordinator with a Master's degree in education counseled and recruited prospective participants by evaluating transcripts, helping students adjust to life on the campus, and assisting students with their university paperwork and scheduling. An administrative specialist and two graduate assistants provided additional support to the project.

College of Education. The MilCert project paid the first-year salaries of two new faculty members who were to help carry the load of the large number of MilCert students that the project originally projected to enroll. The College of Education was at full enrollment when MilCert began, and without the additional faculty, project staff argued, the College could not host MilCert. The project originally planned to hire three new faculty members for the duration of the project, but reduced this to two professors due to low enrollment.

University Office of Admissions. MilCert's activities were coordinated with those of the Admissions office, which had a demonstration-funded employee working part-time to review MilCert applicants' educational backgrounds and general readiness for enrollment at the university.

Adjunct Programs. MilCert worked with other teaching institutions that could provide transferable coursework to participants who did not yet qualify for admission to Clemson's teacher training program (i.e., those who still needed prerequisite coursework to bring them up to Junior-level standing) or could help those who wanted to begin coursework before they left the military. The close working relationship with these "adjunct" programs ensured that participants need not experience the exasperation of repeating coursework at Clemson because their credits did not transfer from another institution. In many instances instruction at adjunct institutions was less expensive and classes were smaller than those at Clemson University, making them a convenient choice for new and prospective participants. By the fall of 1995, MilCert had worked with eight adjuncts. Approximately one-third of MilCert participants received some instruction from adjunct programs before enrolling at Clemson.

"Troops to Teachers." Throughout the project, MilCert staff encouraged all of their eligible participants to apply for the federally-funded Teacher and Teacher's Aid Placement Program, commonly referred to as "Troops to Teachers." In the project's final year, MilCert contracted directly with the regional placement coordinator for Troops to Teachers. Like MilCert, Troops to Teachers was designed to bridge careers in the military with careers in education, but on a national scale. Among its most attractive features for MilCert participants was a stipend of up to $5,000 to help with the cost of obtaining teacher certification. The program also subsidized a portion of applicants' teaching salaries for up to five years.

State Agencies for Teacher Education. In designing and implementing the project, MilCert planners obtained assistance and support from a number of key educational organizations on a host of issues related to teacher recruitment, preparation and certification. These organizations included the South Carolina Center for Teacher Recruitment, South Carolina Commission on Higher Education, and South Carolina Department of Education.

Charleston Naval Shipyards. MilCert staff were interested in testing the program model for other, non-military target groups of dislocated workers. That opportunity came in the spring of 1994, when MilCert staff explored the feasibility of recruiting displaced civilian workers from layoffs at the Charleston Naval Shipyards. MilCert's principal investigator and administrator found, however, that only a limited number of the civilian workers had the leadership and educational background appropriate for a second career in teaching. MilCert coordinated with staff from the shipyards to recruit interested workers on an individual basis. By August of 1995, the program had recruited two workers and several others had expressed interest.

Other Alternative Certification Programs. MilCert staff envisioned the project evolving into a network of schools providing transition assistance to exiting military people who desired careers in education. Towards this end, MilCert staff worked with other colleges and universities to develop teacher preparation projects for exiting military members. For example, staff worked with a university in central Florida to prepare for the closure of the Orlando Naval Training Center, which had many experienced military instructors well-suited for teaching careers.

THE IMPLEMENTATION EXPERIENCE

From the very beginning MilCert faced challenges largely brought about by its unique design as well as erroneous assumptions concerning the numbers of individuals who would be interested in the program. The stringent requirements for eligibility, fixed scheduling, and location of the project were factors that caused delays in start-up and slow recruitment. Nevertheless, MilCert staff labored hard to identify and recruit eligible members of the target group. The project received two extensions to continue operations through several internship cycles: it was scheduled to run for three-and-a-half years, through June of 1996, longer than any other Defense Conversion Adjustment (DCA) demonstration, and received additional funding totalling $967,891.

RECRUITMENT AND SELECTION

Recruitment and selection evolved into one of the project's key activities, consuming substantial staff time and effort. MilCert originally targeted service members who were separating from South Carolina military installations. The project looked for officers and non-commissioned officers (NCOs) with leadership experience, particularly African American men. Enrollment criteria required individuals to show that they (1) had been on active duty since at least September 30, 1990; (2) could demonstrate interest and aptitude for teaching; and either (3) had attained enough transferable coursework to achieve the junior year status at Clemson; or (4) already possessed a Bachelor's or Master's degree.

In part because of the lower-than-expected numbers of separating military personnel, early efforts to recruit service personnel leaving South Carolina installations netted few qualified participants. In response to the low interest shown locally, MilCert staff expanded the scope of outreach. Eventually, MilCert staff adopted the more successful, albeit more costly strategy of advertising in military newspapers. Using this approach, the number of inquiries jumped dramatically. Project staff abandoned the notion of recruiting solely from within South Carolina, but retained their plans to place graduates in South Carolina schools. By the fall of 1995, MilCert had received inquiries from over 2,000 service members from across the country and around the world.

In the first 18 months of the project, MilCert had difficulty attracting qualified minority participants. The project offered a modest grant-in-aid to help minority participants who demonstrated financial need. By the Fall of 1995, minority recruitment had improved: ten minority participants (or 25% of all participants) had enrolled or agreed to enroll in the future. Project staff learned that most minority participants did not want or need the grant.

Among the unique aspects of Clemson's teacher training program was that it would admit students who had not yet completed their bachelor's degrees as long as they had at least junior class standing. Indeed, half of MilCert's participants were enlisted service members working on completing their undergraduate degrees.

Despite casting the net nationwide, enrollments never approached the project's ambitious goal of 50 participants per year. Only 34 participants enrolled in the project during its three years of operation. The project surveyed those contacts who did not follow-through with the application process to learn more about their decisions. Although the response rate was low, the answers provided by 173 contacts largely confirmed project findings: 20% did not like the location; 13% found other programs; and 12% cited concerns about finances.

The intake process was slower than anticipated. Not only did the process of evaluating files and transcripts consume substantial staff time, but once individuals were found to be qualified, they typically took a year or more to decide whether or not to enroll at Clemson. While this substantial lead time was helpful in preparing applicants for a smooth transition, it delayed even longer the project's own timeline for enrolling, training, and placing participants and undermined its ability to meet the project's enrollment goals. These other factors delayed the intake process, as well.

- No two applicants were alike. Some had Master's degrees and teaching experience while others had not yet completed general education prerequisites for their BA or BS degrees. The great range of qualifications and experience required staff to individualize their recruitment efforts, increasing the length of time between first contact and the applicant's commitment to the program.

- Many of the courses applicants had taken while in the service were not related to teaching, or were not transferable to Clemson University, or did not meet South Carolina's requirements for teacher certification. This meant that even those with degrees or substantial coursework found the duration of their teacher training programs extended.

- Staff found that the decision to relocate to Clemson University was often agonizing for mature service men and women, most of whom had to relocate their entire family and expend substantial personal resources.

Project staff responded to these barriers to enrollment by trying to ease the hardships of relocating to Clemson and enrolling in classes. They (1) lobbied the state to change the definition of an in-state resident so that individuals retiring from the military to South Carolina could pay lower rates; (2) assisted all eligible participants (e.g., those who already had degrees) in applying for Troops to Teachers, (3) lobbied for faster response from organizations that administered veterans benefits, and (4) designed an innovative one-year internship that would pay MilCert students regular teaching salaries instead of student teaching without pay.

SERVICES PROVIDED

Most of MilCert's grant supported project administrative activities. MilCert services included (1) pre-admission activities and services, such as marketing, recruiting, counseling about careers in teaching, and transcript evaluation; and (2) administrative assistance and readjustment services for those enrolled in and attending teacher certification training. While participants paid their own tuition and expenses for training, the project supported instruction by paying the first-year salaries of two new professors in the College of Education.

Prior to enrolling at Clemson, applicants received information from MilCert staff about the project. Those interested in teaching in South Carolina were asked to provide transcripts of their previous coursework. The goal of the transcript evaluation was to provide a quick turnaround assessment of each applicants' preparedness for the teacher certification program. Project staff reasoned that in the context of rapid force reductions, affected military staff would have little time to assess their options. Formal transcript evaluations were normally conducted through the university and/or through the College of Education. This normal process was not replaced but simply sped up because MilCert staff had already conducted an initial assessment of transferable courses in education and helped coordinate the evaluation process with other academic advisors. Once an individual qualified for the program (i.e., the individual had enough transferable credits to complete the program in about two years) MilCert staff submitted the application to the university.

Project staff believed that the transcript evaluations were indispensable. Although labor-intensive, they helped MilCert communicate the amount of coursework individuals needed to attain certification. Depending on the amount of education and the clarity of the transcript, an evaluation could be completed in as little as a half hour or as long as several hours. By fall of 1995, staff had evaluated 524 applications, the majority of which were found to be eligible.

Although quick-turnaround evaluation was a key component to the program, only about 7% of all qualified applicants enrolled. The quick-turnaround assessments were undoubtedly helpful earlier in the project, when military members had less time to make decisions. Nevertheless, the project found that applicants typically took a year or more to consider their options. In light of these trends, the added benefit of expending substantial staff resources on quick-turnaround evaluations is unclear.

In the course of recruiting for MilCert, project staff sometimes provided referrals to other programs or guidance about teaching careers, often in conjunction with the transcript evaluations. Project staff obtained permission from the Department of Labor (DOL) to count these non-enrolled individuals as participants who were "resolved" in the readjustment portion of the program. By the middle of 1995, MilCert had 76 participants who had been "resolved" in the following outcome categories:

THE MILCERT PROJECT

Outcome Category	Number of Participants
Advanced degree program	13
Employed	8
Employment Agency	2
Other degree program	3
Other teaching program	50

For those enrolled in the project, MilCert staff provided more intensive administrative support and counseling than were available through the rest of the university to regular students. MilCert's administrator and relocation coordinator both had military backgrounds and understood the needs of non-traditional students. MilCert staff kept track of students' progress by reviewing their schedules, ensuring they took the appropriate examinations for teacher certification, and made sure they enrolled in the appropriate courses to be eligible for the internship phase. Project staff also came to participants' aid when they experienced difficulty with other agencies and offices, within and beyond the university's walls.

Project staff also developed an orientation session of several hours for both new and continuing students at the beginning of each semester. During these sessions, participants learned about MilCert, the university and university services. The sessions also gave new MilCert students an opportunity to learn from the experience of continuing participants and from people who operated services specifically for veterans. The MilCert office, in short, was a resource offering information and support to MilCert enrollees.

A survey distributed to all MilCert enrollees demonstrated that all were very satisfied with the helpfulness of MilCert staff. In fact, MilCert services were rated consistently higher in customer satisfaction than other university services. Participants interviewed for the study typically said that they would go to the MilCert office with a problem before going anywhere else. The sentiments of several participants were captured by one who said "I wouldn't have pursued a career in teaching if it weren't for the people at MilCert."

The course sequence and duration of training varied for participants based on their previous educational background, which course credits were accepted, and how many courses they took each semester. Like all aspiring teachers in South Carolina, MilCert participants were required to complete the general course requirements for professional educators as well as the specific requirements of their chosen specialty areas. They also needed to pass the state qualifying examinations for teaching in their respective fields before obtaining an internship. Project staff found that whether individuals enrolled with a degree or not largely affected their time in the coursework phase of the program. Participants with degrees tended to complete their coursework in 16 months, while those without degrees tended to take 33 months. By the fall of 1995, 12 participants had completed their coursework, and 22 were still taking courses.

One of the innovative aspects of the MilCert program was the paid teaching internship, developed by MilCert to address the participants' need for a paycheck as soon as possible. Internships were offered as an alternative to the unpaid student teaching assignments that are generally used in teacher preparation. Interns were to teach as fully-paid faculty at a school for two semesters with guidance from an experienced teacher at the school. MilCert staff worked with the South Carolina Department of Education and the State Board of Education to issue interns a "conditional teaching certificate." After successfully completing the internships, participants received their full teaching certifications, and it was expected that they would continue to teach at the schools where they completed their internships.

A concern raised by MilCert students, interns, and one faculty member was that the project's modified course sequence provided less exposure to the classroom than that of traditionally trained students. Students typically obtain their exposure to the classroom in small doses that gradually increase over time, culminating in a semester of student teaching. MilCert students, however, got only a brief introduction to the classroom, then spent the remainder of their coursework phase in core education classes on foundations and theory. Some felt that classroom exposure was much more helpful than the foundation courses and were uncomfortable about the prospect of running a classroom with such limited exposure.

MilCert's experience with the internships was limited, yet instructive. Four participants completed their coursework and were ready for internships during the 1994-1995 school year. Students were largely responsible for securing their own internships, although project staff arranged for these students to participate in the placement program offered by the College of Education for students expecting to be certified for the next school year. This included a large job fair where prospective students have the opportunity to meet with hiring staff from school districts around the state. By the time this group was ready for placement, however, conditional certification had not been approved by the State Board of Education, and widespread information about MilCert had not been dispersed to hiring officials around the state. This left MilCert participants at a disadvantage.

The results from the first small cohort of interns was disappointing. Two interns whose primary area was German could not find positions. One of these participants obtained certification through the traditional route of student teaching. The other decided to work part-time until an offer came along. Another participant moved with her spouse to another state. MilCert displayed considerable commitment by helping her attain certification in that state. Faculty at the College of Education worked with a local university and monitored her student teaching. The one individual who obtained an internship was disappointed in his experience and left teaching.

Taking stock of these first interns' experience, MilCert staff made substantial changes to improve the success of the next group of nine interns. First, staff enhanced placement services.

Project staff embarked on a campaign to inform school districts about the availability of experienced, mature teachers, including an information booklet profiling MilCert, the internship, advantages of hiring those who qualify for Troops to Teachers, and profiles of each person ready for the internship. These materials were prepared well before the hiring season for the next school year and provided to hiring officials around the state. MilCert also contracted directly with the region's placement coordinator for Troops to Teachers, who helped to inform state educators about the MilCert interns and link participants with positions, whether or not the interns were eligible for Troops to Teachers.

MilCert also substantially improved the internship process. To begin, MilCert enhanced the workshop orienting interns to the classroom. Second, faculty carefully reviewed the match of participants to schools and the selection of the local supervisor so that any potential problems could be identified early. Supervisors were reimbursed at twice the usual rate for supervising teachers and monitored more closely. In one instance, a faculty advisor changed the local supervisor because she was not providing significant guidance to the intern.

During the 1995-1996 school year, nine participants completed their coursework and entered internships. The Troops to Teachers placement coordinator helped to place many of these individuals in appropriate schools. Preliminary reports from this second group suggest that they are performing well and are likely to be hired by their current schools for another year.

NUMBER AND CHARACTERISTICS OF PARTICIPANTS

By autumn of 1995, MilCert had enrolled 34 participants. A survey of the characteristics of these participants plus the 18 who had been accepted into MilCert but not yet enrolled indicated that:

- Most participants were men, ranging in age from approximately 30 to 50 years.
- Time in service was between eight and 20+ years.
- Two-thirds were enlisted.
- One-fourth were minority members.
- Most were married with families.
- Eight participants had taken courses at other universities in preparation for the move to Clemson, including several active military staff preparing to leave the service.
- Most were seeking teaching certification in Special Education, with high interest also in Mathematics and Science.
- Many had some form of tuition assistance, such as the GI Bill.
- Most made a substantial personal investment to attend Clemson; each member of the first group to complete their program reportedly spent between $5,000 to $25,000 of his or her own to attend Clemson.

OUTCOMES

MilCert was designed to help fill teaching jobs in critical need subject areas by recruiting mature, experienced individuals who were leaving the military. Project designers hoped that the

MilCert model would provide a fast and economical alternative to traditional teacher certification programs. Yet after three years and the use of substantial project resources, MilCert achieved very limited success.

A review of MilCert's extensive operational data shows that staff worked very hard to recruit qualified applicants as indicated by the high number of contacts and the many transcripts evaluated. Despite this, only 34 people enrolled over the three-year period—far less than the goal of 50 enrollments per year. Further, the high level of effort required to recruit the low number of enrollees made MilCert very costly compared to other worker mobility programs. Assuming that MilCert spends most of its grant amount, the cost per enrolled participant exceeds $28,000. Due to the very low number of participants, MilCert was unable to meet its long-term goals.

The chart below summarizes the project's objectives, and the evaluation's assessment of whether those objectives were met.

THE MILCERT PROJECT
PROJECT OUTCOMES IN RELATION TO OBJECTIVES

Objectives	**Outcomes**
Operational Objectives	
Make 2,400 contacts.	Objective met. Contacts made numbered 2,342.
Enroll 50 participants per year.	Objective not met. Thirty-four individuals enrolled during program's three years.
Resolve 60-75 contacts to other outcomes.	Objective met. Seventy-seven cases resolved.
Evaluate transcripts of 500 applicants.	Objective met. Transcripts evaluated numbered 524.
Limit attrition to 2%.	Objective not met. Twenty-six percent attrition over the duration of the project: eight participants from coursework, one from the internship.
Employ 98% of enrolled participants.	Objective met. Eleven out of 12 program completers were working as interns or as fully certified teachers.
Obtain 20% minority enrollment	Objective met. One out of four enrolled participants were minorities.
Long-Term Objectives	
Rapid, economical alternative certification process for separating military members.	Objective not met. Project helped move 11 individuals into paid positions. It is unclear whether the process was faster than traditional routes to teacher certification. The project expended substantial resources to recruit and train these few individuals.
Fill critical teacher shortages in South Carolina.	Goal not met. Only two graduates are teaching in South Carolina. Nine additional interns may become employed by June, 1996.

SUMMARY COMMENTS

MilCert offered a promising alternative to the traditional design of teacher training and certification. Although many of these innovations remain inadequately tested, MilCert's experience demonstrates that some features merit further consideration.

- ***MilCert staff demonstrated intense commitment to the alternative teacher training concept.*** Project staff received glowing comments from nearly all of the people enrolled in the project.

- ***MilCert's pre-enrollment services, particularly informal advice, counseling, and referrals to candidates helped potential students thoroughly understand the program, its prerequisites, and the requirements for completing teacher training.***

- ***The project recruited participants from around the nation and the world.*** Unlike other worker mobility projects, MilCert was located far from where dislocations were occurring. When enrollments from statewide recruiting efforts fell far below the project's expectations, staff expanded the scope of outreach to eligible service members around the globe. Although enrollments continued to be low and the cost of outreach was high, the project enrolled more participants because of this method.

- ***The project succeeded in recruiting NCOs without degrees and minority military members.*** Through a concentrated recruitment strategy, about half of the enrollees were NCOs who did not already possess degrees; a quarter were minority military members.

- ***Continued assistance to enrolled students by MilCert staff helped participants adjust to their new lives as civilians and students.*** Staff provided abundant administrative support, personal guidance, and general encouragement to help students and their families adjust to their new lives.

- ***Developing ties with other universities allowed MilCert to offer its program to a larger number of participants.*** MilCert staff established effective working relationships with other universities to help students prepare for their training at Clemson. These ties also placed teacher certification within the reach of those with less academic preparation who eventually wanted to enroll in MilCert.

- ***Teaching internships helped some participants move into paid positions in critical need subject areas.*** Although the concept of paid internships was innovative, faculty members and participants preferred more classroom experience.

MilCert's staff and administrators learned important lessons about designing training programs to prepare individuals for careers in specific occupations.

- Workers affected by downsizing, including military staff, often have limited resources, making it difficult to participate in the training they desire. Project participants were responsible for paying all of the costs associated with training, including tuition and fees, relocation and living expenses. MilCert, therefore required a substantial personal commitment of time, energy, and money from a target group with typically limited resources. The high cost of attending Clemson University was among the key factors that influenced applicants' decision not to enroll.

- Obtaining a realistic estimate of program demand is essential to planning effective service delivery. MilCert overestimated the number of people interested in the program. Recruitment for MilCert was an expensive, arduous process, yet the project only attracted a small fraction of the 50 participants per year it had hoped to.

- Long distance outreach and recruitment for delivering services locally is relatively ineffective. Low recruitment was significantly related to the fact that there were only about 40,000 active military members in the entire state. MilCert was able to increase participation by linking with programs near where individuals worked and lived. However, programs like MilCert that are located near a base where there are large numbers of eligible military members or that are located in regions to which many military members retire can expect to enroll more participants.

- Programs need to address participants' essential needs and offer services that would otherwise be unavailable to them. While MilCert certainly helped some non-traditional students adjust to campus life, nearly all of these individuals probably could have obtained their teaching credentials and found jobs on their own. Participants and faculty thought very highly of the work and energy that staff demonstrated in recruiting and helping students resolve problems. Most agreed that project staff helped students better than did other university offices. Nevertheless, many of the services offered by MilCert staff were available to enrolled students through other offices at the university or the College of Education, and the demand for experienced teachers in critical need areas was sufficiently great that those with qualifications similar to MilCert participants were likely to obtain employment.

FACT SHEET: DEMONSTRATION PROJECT

MINNESOTA DEFENSE CONVERSION ADJUSTMENT DEMONSTRATION

Project Location	Minneapolis, MN	*Grantee*	Dislocated Worker Unit, Minnesota Department of Jobs and Training
Type of Approach	Combined Dislocation Aversion and Worker Mobility	*Project Administrator*	Minnesota Teamsters Service Bureau
Period Covered by Grant	November 1992–October 1995	*Key Contact*	Jean Dunn, Director, Teamsters Service Bureau
Grant Amount	$444,142	*Geographic Area*	Minneapolis-St. Paul metropolitan area

Context

Although the Twin Cities economy is relatively strong and diverse, the decline of the mainframe computer industry and defense manufacturing have caused large-scale dislocations. Alliant Techsystems, Inc, once a large subsidiary of Honeywell Corporation and now an independent producer of munitions, employed approximately 3,800 workers at the beginning of the demonstration. The union and its service organization, the Teamsters Service Bureau, identified worker training as a strategy to both avert further layoffs and assist workers in transitioning to new jobs should layoffs occur.

Primary Goals

The Alliant Techsystems/Teamsters project was conceived as an effort to train at-risk workers in skills that would enable the firm to continue to compete in defense markets or that would prepare them for new jobs in other industries should lay-offs occur. The project sought to:

- Train at-risk workers in basic skills, computer literacy, and technical skills to improve the production process and increase worker productivity.
- Avoid layoffs among at-risk assembly workers by providing some workers the opportunity to receive training as entry-level machinists.

Key Players

- **Dislocated Worker Unit, MN Department of Employment Security** — Formal grantee and participant in early planning stages.
- **Minnesota Teamsters Service Bureau** — Primary project administrator; the Bureau participated in project-level strategic planning and provided services.
- **Alliant Techsystems** — Contributed substantial resources of its own to support training.
- **St. Paul Technical College** — Provided assessment of training needs, designed curriculum and materials, and provided on-site training to workers.

Significant Outcomes

- Coordination among multiple project partners helped to overcome a number of implementation barriers.
- More than 200 employees of Alliant Techsystems completed training.
- During the project, 100 assembly workers were laid off; workers that had trained as machinists were protected from layoff.

MINNESOTA DEFENSE CONVERSION ADJUSTMENT DEMONSTRATION

Minneapolis, Minnesota

THE CONTEXT

The Twin Cities metropolitan area, where Alliant Techsystems is located, has a highly educated workforce and a diverse, generally healthy economy. However, since 1990, large-scale dislocations have occurred in high technology manufacturing due to declines in the mainframe computer industry and defense-related manufacturing. In 1992, defense-related manufacturing in Minnesota accounted for about 47,000 workers or two percent of the state's nonagricultural workforce. Rather than pursuing strategies for diversification or conversion, many of the local defense prime contractors are downsizing and attempting to capture a share of the remaining defense market. Among these is Alliant Techsystems.

Alliant Techsystems, Inc. is one of the larger defense-related employers in the area. Prior to September 1990, Alliant Techsystems was a defense division of Honeywell Corporation, with 8,000 employees. The division made munitions, torpedoes, landmines, fuses, and other explosive devices. Spun off by Honeywell in 1990 as a separate corporation, Alliant Techsystems reduced its workforce by over 50% between 1991 and the end of 1993. Of the firm's 3,800 employees in 1993, about 750 were hourly production workers, represented by Teamsters Local 1145. The rest of the workforce included salaried engineers, project managers and office workers. At the time the demonstration was planned, Alliant Techsystems had indicated that it was interested in staying in the defense sector and stabilizing its sales by developing and pursuing contracts for more sophisticated products (e.g. explosives that could pierce the shells of armored vehicles such as tanks).

GOALS AND STRATEGIES

This project was designed to meet dual goals. On the one hand, project planners recognized that further layoffs at Alliant Techsystems were likely, particularly among workers assigned to the firm's two assembly facilities. As a result of previous layoffs, all remaining assembly workers had at least 17 years of service with the company. These workers were ill-equipped to find new jobs in the Minneapolis-St. Paul economy, where unskilled manufacturing jobs have been on the decline for some time. The Teamsters and its service organization, The Minnesota Teamsters Service Bureau, helped to identify the goal of working to upgrade the skills of currently employed Alliant Techsystems employees on a "proactive" basis rather than waiting for more workers to be dislocated. The project was designed to introduce these at-risk assembly workers to "workplace basic skills" training as a way to encourage them to begin building the skills that would make them more employable in the local labor market, should they be laid off.

On the other hand, Alliant Techsystems and the Teamsters union local were interested in retaining jobs at the firm for as many Alliant Techsystems workers as possible. One strategy they identified to retain existing workers was to increase the in-house capability of Alliant Techsystems to perform short-run flexible machining jobs that it had previously assigned to outside subcontractors. Thus, the demonstration was designed to upgrade the skills of existing machinists and to prepare a small group of at-risk assemblers for new job assignments as entry-level machinists to fill the company's growing need for in-house machinists.

These dual strategies were undertaken as part of a unified demonstration. The demonstration proposal included six distinct objectives:

- Establish a project steering committee to review the project design and oversee implementation of the project.
- Design and develop a training program based on a functional analysis of industry and occupational requirements for machinists. Develop training in specific occupational skills as well as job-specific basic skills. Involve all project partners in reviewing the training curricula.
- Select training participants, conduct training, evaluate the training program, and modify training modules, as needed.
- Develop and make available support services.
- Produce and disseminate training products, guides, and reports.
- Conduct formative and summative evaluations and analyze implications for project activities.
- At the time the demonstration began, no layoffs had been announced. The company offered to support the full costs of training for 160 at-risk assembly workers, approximately 20 entry-level machinists (to be selected from the ranks of the at-risk assemblers), and approximately 35 experienced machinists.

KEY PLAYERS

This demonstration was a collaboration between four project partners: the Minnesota Teamsters Service Bureau, Alliant Techsystems, Teamsters Local 1145, and the St. Paul Technical College. Each of the key partners in the demonstration supported the overall demonstration objectives, as well as having its own objectives for the demonstration. Each partner was responsible for different aspects of the planned demonstration activities. To assist in the oversight and guidance of the demonstration, the partners developed a Project Steering Committee and an Internal Planning Team.

The Dislocated Worker Unit of the Minnesota Department of Jobs and Training, recently renamed the Minnesota Department of Employment Security, was the official grantee for the demonstration. The role played by this agency was limited to participation in early planning meetings, membership on the project steering committee, and submission of required federal reports.

The Minnesota Teamsters Service Bureau, a private non-profit organization that provides support services to Teamsters Union members and their families, was the lead agency providing day-to-day administration of the demonstration. The Teamsters Service Bureau hoped to encourage close labor management cooperation and coordination in the design and implementation of the demonstration project. Project staff at the Service Bureau were responsible for: (1) facilitating the meetings of the Project Steering Committee and Internal Planning Team; (2) overseeing intake and service planning for individual participating workers as well as reporting on individual participant outcomes; (3) providing counseling and crisis intervention services, as needed, to participating workers; and (4) designing and conducting classes in "basic skills enhancement" to participants interested in training in math, reading, and computer skills during off-work hours.

Alliant Techsystems, Inc. wanted to enhance the skills of current machinists so that they could take on a wider range of production tasks and thereby increase the company's flexibility in the competitive defense marketplace. They also hoped to minimize the number of layoffs necessary by offering at-risk assemblers the opportunity to prepare themselves for new jobs as entry-level machinists. Alliant Techsystems participated in the demonstration through management representation on the Project Steering Committee and management and line supervisor representation on the Internal Planning Team. Additional company involvement included: (1) cooperating with the St. Paul Technical College in the conduct of a functional analysis of the company's machinist positions; (2) negotiating with the union to create a new position of "machinist assistant," which was developed so that at-risk assembly workers could begin working in the production area while learning machinist skills; (3) paying the cost of tuition for the machinist training; and (4) paying wages to workers participating in training during working hours.

St. Paul Technical College hoped to gain experience with Alliant Techsystems that would help them assist other manufacturing firms in the local area with on-site training for existing workers. College staff were also excited about developing "train the trainer" sessions to teach experienced machinists how to pass on their skills to new or less experienced machinists. As a key project partner, St. Paul Technical College was responsible for: (1) conducting a functional skills analysis of Alliant Techsystems' machinist positions; (2) developing new curricula for advanced machinist training for workers using multiple-spindle automatic screw machines (ASM) and computerized numerical control (CNC) machines; and (3) developing a curriculum for "workplace basic skills" training, including information about general computer literacy and computer applications in the manufacturing workplace. In addition, the technical college was responsible for providing on-site classes for Alliant Techsystems workers in these new training areas, as well as providing on-site versions of the existing technical college classes for beginning machinists.

Teamsters Local 1145 wanted to preserve employment for as many Alliant Techsystems hourly workers as possible. Thus, the union was pleased to be able to arrange for existing union members to have access to new machinist assistant positions, rather than having the company hire new workers "off the street." In addition, they hoped to enhance the general literacy and occupational skills of the entire Alliant Techsystems hourly workforce, as well as bring the skills of current machinists up to industry standards. This was viewed as a dual strategy to help union members keep their existing jobs, as well as to help them have marketable skills if they were laid off. Teamsters Local 1145 participated on the Project Steering Committee and participated in sensitive negotiations with the firm about how to select at-risk assemblers for machinist training and how receipt of training would affect the job classifications and seniority rights among different classifications of workers.

The **Project Steering Committee**, composed of members of all the project partners and other community agencies, provided guidance during the initial project design stages.

The **Internal Planning Team**, composed of representatives from workers, company line supervisors, and corporate management at Alliant Techsystems, served as an ongoing vehicle for overseeing day-to-day project implementation and suggesting needed modifications in planned training or other project procedures in response to emerging implementation challenges.

THE IMPLEMENTATION EXPERIENCE

Because Alliant Techsystems was a key partner in the demonstration from the outset, firm selection was not an issue for this project. The implementation phase focused on the design and delivery of a range of training activities and other services to Alliant Techsystems employees. A number of unexpected implementation challenges complicated the implementation phase of this project.

CHARACTERISTICS OF PARTICIPATING FIRM

Alliant Techsystems was, in many ways, an odd choice for a firm to participate in a demonstration of "defense conversion adjustment" because it had never indicated a serious interest in diversifying/converting to commercial products or markets. However, the notion of developing a demonstration involving Alliant Techsystems was attractive to project planners: (1) because of the strong involvement by both management and the union; (2) because the firm was willing to make a sizeable financial contribution, including paying all tuition costs for the participating workers; and (3) because the project was designed to enhance worker skills to benefit both the firm and the participating workers, whether they remained employed at Alliant Techsystems or were laid off.

Although Alliant Techsystems management was not interested in diversification into commercial markets, the other project partners thought they had secured strong company commitment to the planned workforce training. Over time, however, the other project partners found it difficult to convince Alliant Techsystems management to live up to its promise to release workers for training during working hours. The appointment of a new Board of Directors and new chief executive officer for Alliant Techsystems soon after the demonstration began may have weakened the company's commitment to completing the planned training. In addition, the demonstration faced a series of implementation challenges (described below) that would have made the completion of training as scheduled extremely difficult, even with strong company buy-in. That planned training was ultimately completed after a four month no-cost extension was a testament to the determination of all project partners to find solutions to each new difficulty. Teamsters Service Bureau staff commented, "It has been a nightmare trying to get the training done."

Perhaps one reason that completion of planned training was so difficult for this project was that Alliant Techsystems management never seems to have been convinced that they needed to reorganize the way they did business and never recognized that worker retraining could be used as a strategy to improve the effectiveness and efficiency of the company as a whole. Unlike firms in other Defense Conversion Adjustment (DCA) demonstration projects that wanted to become more competitive in defense markets through workforce reengineering and retraining, Alliant Techsystems management did not appear to recognize the potential corporate benefits of retraining.

SERVICES

The Alliant Techsystems demonstration emphasized the design and delivery of training to groups of employees in the company's assembly and production facilities in New Brighton, Minnesota. In addition, supportive services were available. After approximately 100 assembly workers were laid off by Alliant Techsystems in March of 1995, these workers were assisted through a separate dislocated worker program operated by the Teamsters Service Bureau.

TRAINING SERVICES

In keeping with the multiple objectives of the demonstration, several different types of training services were designed and offered to Alliant Techsystems workers, including training in (1) "workplace basic skills," which consisted of an introduction to computer literacy and computer applications in the workplace; (2) basic skills, referred to as "enhanced skills training;" and (3) occupational skills for entry-level and advanced machinists. In addition, to promote the dissemination of specific occupational skills from more experienced workers to workers with fewer skills, the demonstration called for the development of "train the trainer" training to support peer-to-peer learning in the workplace.

- **Workplace basic skills training** was developed by the technical college to introduce 160 workers to basic computer literacy skills and provide an overview of the use of computers in manufacturing. It was designed as a 12-hour class to be offered during paid working hours. This course was initially developed for workers in the manufacturing area, to introduce them to workplace applications such as automated resource materials management and automatic data interchange. However, it was ultimately provided to workers in the assembly facility, because machinists in the production area were too busy with occupation-specific training and production pressures. Workers had a very positive reaction to his course, and a number of the assemblers who completed this training indicated an interest in participating in additional training in particular computer applications on an off-hours basis. Thus, this training became an effective tool for recruiting at-risk assembly workers to pursue additional off-hours training in such areas as keyboarding skills, word processing, and spread-sheet applications, as described below under enhanced skills training. By the end of the training period, some production workers were also provided with this training. Approximately 140 workers had received this training by the end of the demonstration period.

- **Enhanced skills training** was designed for all interested workers and was offered on an "off-hours" basis (i.e. outside paid work hours). Classes were scheduled to be accessible to individuals working on both the first and second shift. Initially offered to at-risk assembly workers after surveying worker interest, the enhanced skills training classes included classes in reading skills, math skills at several different levels, and computer skills. After the 12-hour introduction to computer literacy course was initiated during paid working hours, the level of interest in off-hours computer-related classes began to increase. Specific computer courses offered on an off-hours basis included training in the use of spread sheets and word processing software. A total of 89 individuals had taken one or more off-hours enhanced skills training classes by March 1995. Of these, 46 were laid off at the end of March. After the layoffs occurred, it was difficult for the project to recruit interested participants from the remaining assembly workers for continued off-hours enhanced skills training.

Toward the end of the project, when paid work-release time for machinists became increasingly difficult to arrange, the project offered several advanced skills enhancement classes on an off-hours basis, including a course on geometric tolerancing and an advanced math class.

- **Occupational skills training** was targeted to two groups of workers: existing machinists whose skills needed to be upgraded, and at-risk assemblers recruited and selected for new positions as machinist assistants. Advanced machinist training was developed for and provided to 38 current machinists, whose skills needed to be upgraded to industry standards so they could do more frequent set-up and adjustment of machines to produce a wider variety of parts. Entry-level machinist training was provided to a group of 23 at-risk assemblers, who were provided with 300 hours of entry-level machinist training. These trainees began to work in new jobs as "machinists assistants" as soon as they began training. Planned occupational skills training was completed in October 1995 after a four-month no-cost extension was approved by the Department of Labor (DOL). A series of implementation challenges faced by the project in completing the planned machinist training are described below.

- **Train-the-trainer training** was not given the "go-ahead" by Alliant Techsystems until the last month of project operations. During this month, ten experienced operators of automatic screw machines participated in training developed by the technical college to impart techniques for teaching machine set-up and operations skills to their peers.

NON-TRAINING SERVICES

Although the project did not offer basic readjustment and reemployment services to the 100 workers who were laid off from Alliant Techsystems in March of 1995 (these workers were served using separate dislocated worker funding), the Teamsters Service Bureau did offer several "career exploration" workshops to Alliant Techsystems workers on an off-hours basis prior to the layoff, as concern about impending layoffs mounted.

In addition, Alliant Techsystems workers participating in the demonstration were offered family supportive services, as needed, by the Teamsters Service Bureau. The supportive services available from the Teamsters Service Bureau included family counseling, mental health services, substance abuse services, and other types of crisis intervention and advocacy assistance. These services were provided on a confidential basis and no records were kept on the number of demonstration participants that actually used family supportive services.

IMPLEMENTATION CHALLENGES

The project faced two major challenges to implementation of the planned training. These are described below.

The first challenge was that union members were concerned about how selection for and participation in training would affect worker seniority and job security. Initially, the union was reluctant to approve the planned training for at-risk assemblers to become entry-level machinists, because existing machinists, who had retained their jobs "out of seniority order" during previous layoffs, felt threatened. They were concerned that the at-risk assemblers, who had longer tenure with the firm than many existing machinists, would have greater job seniority once they became machinists. To resolve this conflict of interest between assemblers and machinists, the company and the union designed a new job classification for the new machinists, called "machinist assistant," and agreed that the machinist assistants could not challenge the seniority of existing Alliant Techsystems machinists until they completed the full 1800 hours of training required to become a licensed machinist. This seemed a difficult enough requirement that the existing machinists were satisfied. Unfortunately, it relegated the new entry-level machinists to a "second class" status that made it difficult for them to use their new skills on the job. Trainees complained that they were often asked to do janitorial work in the machine shop and were not permitted to practice operating the machines.

A similar concern over how training might affect opportunities for advancement led the union to insist on seniority as the primary criterion to determine access to training for the advanced machinists. The union declined to let the Teamsters Service Bureau conduct any objective testing or skills assessment of existing machinists prior to training, because of discomfort about how this information might be used and whether it would be shared with management. However, it became apparent, after the advanced automated screw machine training was started, that the workers selected for training already knew much of the material that was being presented. The Internal Planning Team helped negotiate a compromise by which a number of workers with seniority gave up their places in training to workers who would benefit more from hands-on training in the set-up and operation of these machines.

The second major challenge was that production pressures made it difficult to release workers for training during paid work hours. At several points during the demonstration, production pressures for the advanced machinists became so severe that the company suspended planned training. During other periods, individual line supervisors were loathe to release workers for scheduled training, so attendance at classes that were held was compromised, making it difficult for instructors to help the class progress at the expected rate.

This pressure became particularly severe after the company laid off approximately 100 assembly workers in March 1995. Although machinists and machinist assistants were not directly affected by this layoff, the layoff invoked a clause in the labor agreement that mandated that if layoffs affected workers who had been at the company 18 years or more, the entire workforce would have to go to a 32-hour work week. This made it extremely difficult for the company to meet its production goals in the manufacturing facility, and forced the company to suspend all training during paid working hours. After a delay of several months, training was begun again, but at a fraction of its former intensity.

PROJECT OUTCOMES

Alliant Techsystems laid off 150 of the 600 hourly workers at its Twin Cities Arsenal in March 1995. Layoffs affected workers at the company's assembly facilities. None of the machinists or machinist assistants receiving training under the demonstration were affected by the layoff. Although the project succeeded in averting layoffs for those at-risk assembly workers who had been selected for entry-level machinist training, there was no suggestion that the project reduced the size of the layoff overall. Approximately 46 of the laid off assembly workers had been participating in the off-hours enhanced skills training classes provided under the demonstration. Once laid off, these workers were no longer eligible for services under the demonstration.

The Minnesota Defense Conversion Adjustment Demonstration succeeded in achieving all of its stated objectives. How some of the objectives were achieved is discussed in some detail below. Project outcomes are then summarized in a table.

Establish a Project Steering Committee. This project took seriously its mandate to develop a working collaboration of diverse partner agencies and established the organizational structures to oversee the demonstration and provide good communication linkages among the project partners. Although the project encountered some serious challenges as it evolved, problems were addressed head-on and project partners showed ingenuity and a spirit of compromise in keeping the project moving forward.

Among the project's key successes was the emergence of the Internal Project Team—comprised of Alliant Techsystems management, line supervisors, and designated worker representatives—as an effective problem-solving group that addressed and developed solutions to a number of implementation challenges, including what to include in various training offerings, and how to recruit, select, and match workers to available training.

Design and Develop a Training Program. The St. Paul Technical College emerged as a particularly valuable project partner in its role developing a customized training approach for the advanced machinist training based on a functional analysis of the machinist function at Alliant Techsystems. It also offered Alliant Techsystems' new machinist assistants an on-site version of its regular entry-level machinist training curriculum. Project partners and training participants spoke highly of the quality of both the entry-level and advanced machinist training curricula and praised the interest of the instructors in helping Alliant Techsystems' workers master the course material.

The project was slower to develop its curriculum for workplace basic skills, and the 12-hour workplace basic skills curriculum that was ultimately developed for use during working hours seemed less than adequate to give Alliant Techsystems' at-risk workers real skills that they could apply in their present or future jobs. However, this curriculum did appear to be effective in stimulating interest among participants in taking additional computer-related classes on their own time, which was an important aspect of the intent of this training.

Conduct Training. Training was interrupted by production pressures repeatedly during the demonstration period. Ultimately, however, the project completed the planned training at the insistence of the union, technical college, and Teamsters Service Bureau. However, it was difficult to predict whether the demonstration-funded training would lead to the continuation of training on a regular basis by Alliant Techsystems. Although the project partners convinced the company to live up to its initial agreement, Alliant Techsystems did not appear to have internalized a commitment to training as a result of its participation in the demonstration. Initial demonstration plans for cross-training advanced machinists were not achieved during the demonstration period. Procedures for ongoing peer-to-peer training, while supported by the "train-the-trainer" sessions held at the end of the demonstration period, were weak.

THE MINNESOTA PROJECT
PROJECT OUTCOMES IN RELATION TO OBJECTIVES

Objectives	Outcomes
Establish a project steering committee to review project design and oversee project implementation.	Objective met. Project found that the Internal Planning Team was particularly valuable in addressing implementation issues.
Design and develop a training program based on a functional analysis of industry and occupational requirements for machinists.	Objective met. Project completed a functional analysis of machinist position at Alliant Techsystems and used information to develop the advanced machinist training curriculum.
Involve all project partners in reviewing the training curricula.	Objective met. Curricula were developed using a participatory process.
Select training participants, conduct training, evaluate training program and modify training modules as needed.	Objective met. Challenges were encountered in selecting training participants (e.g., use of strict seniority criterion led to less than optimal decisions) but were addressed. Additional challenges were encountered in delivering training as planned. Training period was extended and training was finally completed. Training content and instructional methods were modified on an as-needed basis.
Develop and make available supportive services.	Objective met. Although delivery of supportive services was not emphasized in the project design, services were available on an as-needed basis through the Teamsters Service Bureau.
Produce and disseminate training products, guides, and reports.	Objective met. The project produced a variety of training products and guides for dissemination to interested audiences.
Conduct formative and summative evaluations and analyze implications for project activities.	Objective met. Evaluation documented project accomplishments and used focus groups to reflect on lessons learned.

SUMMARY COMMENTS

The Minnesota Defense Conversion Adjustment Demonstration had several notable strong points:

- An initial design that demonstrated a strong company commitment to training as evidenced by over $400,000 in planned company expenditures for training (including tuition and paid work release time for training).
- An effective partnership involving cooperation between labor and management and a commitment to developing compromises as needed to resolve implementation difficulties.
- The involvement of a high quality educational institution committed to providing training relevant to the needs of local businesses and willing to provide training at the work site.
- Development of a training design and delivery system that succeeded in overcoming workers' fears about training and that provided workers access to both occupation-specific training and basic skills training relevant to the workplace.

Project administrators and participants learned a number of lessons as a result of encountering and overcoming various problems and challenges. This experience suggests the following recommendations:

- Plan in advance how to resolve conflicts between production pressures and planned training schedules. Although the company said that it was committed to training, production pressures repeatedly caused them to cancel scheduled training. A short work week mandated by the terms of the labor agreement after the layoff in March of 1995 exacerbated this problem.
- Assess the skill level of trainees prior to training to enable instructors to target instruction to the appropriate skill level. This project's experience demonstrated the problems that arise when individuals are not assessed prior to training. Problems of mismatches between the curriculum and the level of the learners created problems in several classes in which the material was pitched at too high a level for some students and too low a level for others. All participants agreed that increased assessment prior to training would have been beneficial.
- Plan for "hands-on" practice to solidify the learning gains made through classroom instruction. The inability of the company to immediately apply workers' new skills in the workplace not only deprived workers of effective learning tools but deprived the company of the potential benefits of using these new skills.
- Clarify whether project objectives are to increase worker mobility or prevent layoffs. This project's dual objectives made it difficult for demonstration services to focus clearly on either objective. Ultimately, although the company expended substantial resources to train its workers, it did not clearly link this training to strategies to become more competitive in the defense market. On the other hand, the training provided to at-risk workers was not clearly devoted to helping workers prepare for new jobs, since it was never clear whether participants would be applying new skills within Alliant Techsystems or in marketing themselves to a new employer.

FACT SHEET: DEMONSTRATION PROJECT

OPERATION STEPOUT

Project Location	Tempe, AZ	***Grantee***	Arizona Governor's Office for Women
Type of Approach	Worker Mobility	***Project Administrator***	Arizona State University
Period Covered by Grant	November 1992–June 1995	***Key Contact***	Dr. Rita Mae Kelly Chair, Justice Studies Arizona State University
Grant Amount	$846,770	***Geographic Area***	Phoenix and Tucson metropolitan areas

Context

In 1993, the state of Arizona ranked eighth among states most critically affected by defense downsizing. Despite the relative health of the non-defense economy, greater Phoenix, home to 19 of the top 25 defense contractors in Arizona, suffered an 18% decline in defense-related employment between 1990 and 1993.

Primary Goals

Project planners expected women to fare worse than their male counterparts during the restructuring of the local defense industry because women (1) lacked seniority and were therefore among the first to be laid-off in large numbers; (2) would attempt to secure new private-sector jobs in occupational fields still dominated by men; and (3) were underserved by existing transition-assistance programs that planners perceived as being male-oriented. StepOut sought to:

- Assist female dislocated or at-risk defense workers in transitioning out of defense industry jobs and into new private sector jobs or entirely new careers.
- Assist participants in their efforts to improve their decision-making capacities, increase their self-esteem, and enhance their leadership potential.
- Assist participants in developing the skills required for continued career growth and development.

Key Players

- **School of Justice Studies, Arizona State University** — Primary grant manager and administrator of the project's *Fast Track* Seminar for participants transitioning directly into new private sector jobs.
- **Career Services Office, Arizona State University** — Administrator of the project's *Career Assessment Series*.
- **Arizona Governor's Office for Women** — Primary manager of the project's *WE CAN* network for participants who had completed their formal programs.

Significant Outcomes

- Career counseling and job search assistance designed and delivered to over 400 women from diverse ethnic backgrounds.
- Increased levels of self-confidence, understanding of personal skill sets, and enhanced managerial and leadership potential among participants.
- Many participants, though self-identified as "at-risk" when they entered the program, never lost their jobs.
- Of those unemployed at enrollment, 58% of those who responded to the follow-up survey had secured new employment.

OPERATION STEPOUT

Tempe, Arizona

THE CONTEXT

Maricopa County, the home of Operation StepOut, has a relatively healthy economy, with an unemployment rate below the national average and significant growth in some sectors. However, the area has taken a hard hit from defense-related downsizing. According to the 1993 U.S. Defense Budget Project Report, Arizona ranked eighth among those states most critically affected by defense cuts. The Phoenix area has felt the greatest impact, being home to 19 of the top 25 defense contractors in Arizona and suffering an 18% decline in defense-related employment between 1990 and 1993. In addition to dislocation in the private sector, a military base near Phoenix closed during the early summer months of 1993.

Thus, when Operation StepOut planners were designing the program, available information suggested that the impact of defense-related closures would be severe. In particular, planners believed the effects would be close to catastrophic for women. Operation StepOut was based on the premise that women fare much worse in an adverse labor market than men. The grant proposal points to studies indicating that women face more severe barriers than men in their search for new employment.[1] They may be among the first to be laid off (since they are often among the last hired), their spells of unemployment tend to be longer, and they face continuing discrimination in the labor market. In addition, many programs and agencies offering job search services tend to be male-oriented. The project, especially the Fast Track Series, was intended to "even the playing field" for women who have lost or may lose their jobs through defense downsizing.

By 1994, however, when Operation StepOut was up and running, some of the dire predictions of the effects of defense downsizing in Arizona had begun to seem overly pessimistic. The South and Southwest had been left with an increased share of remaining defense contracts—at the expense of California and the "Rust Belt," which continue to bear the worst brunt of defense cuts. Only one major defense contractor in Arizona announced major layoffs in 1994 (Lockheed announced no losses in 1994 and only 350 in 1995) and only 200 civilian jobs were lost due to a Base Realignment and Closure (BRAC) Commission closure in 1995.[2]

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[1] Some studies show the opposite trend. For example, in a recent study one author reports that men lost more jobs than women did during the 1991-1993 recession and become reemployed at a slower rate. The primary explanation for this trend is that manufacturing declined during this period, while retail and services grew. The former sector is dominated by men, and the latter by women. (William Goodman, "Women and Jobs in Recovery: 1970-93", Monthly Labor Review, July 1994.)

[2] "National Defense Industry Layoffs, 1994 and Mid-Year 1995). National Commission for Economic Conversion and Disarmament, Washington, D.C., July 1995.

GOALS AND STRATEGIES

Operation StepOut was inspired by and closely modeled on Phoenix Leadership 2000, a series of meetings sponsored jointly by the Phoenix Women's Commission and Arizona State University that, beginning in 1992, brought women in the local business community together for networking and discussions about their experiences as women holding high-level positions. One of the women who was active in launching Phoenix Leadership 2000 became the force behind the conceptualization and initiation of Operation StepOut. This professor of the School of Justice Studies at Arizona State University (ASU) saw military downsizing and the release of a large number of highly-skilled, well-paid, and well-positioned women—many of whom work in "nontraditional" jobs—into the commercial sector as an "historic opportunity" to spark social change. Project Operation StepOut is a manifestation of the planner's determination to empower women to pursue new careers by equipping them with the skills necessary for tackling gender-based inequalities in the workplace and the job market.

The short-term goals of Operation StepOut were to "assist women in making successful career transitions, increase their leadership potential, and to equip them with skills necessary for continued career growth" ("Final Report, Program Evaluation and Data Analysis" by Rita Mae Kelly and Diane Jezek-Powell, December 1995). To realize these goals, the program offered two distinct service tracks, the Career Assessment Series and the Fast Track Seminar. Both service tracks were designed to promote achievement of career objectives by increasing participants' knowledge and self-confidence about career decision-making skills and job search skills. However, the programs differed in both the characteristics of the women they tried to reach and the content of the information made available. The Fast Track Seminar emphasized teaching participants about gender barriers to career advancement and how to overcome them. Fast Track sought to develop participants' ability to analyze the "fast track" potential of careers. The Career Assessment Series provided a more traditional mix of career exploration, career counseling, and job search skills training. This component targeted women with less education, lesser earnings, and less "fast track potential."

KEY PLAYERS

Operation StepOut was the result of collaboration between three organizations in the Tempe/Phoenix area: two ASU departments, the School of Justice Studies and the Career Services Office, and a state office, the Governor's Office for Women. Each of these three organizations had primary responsibility for one of the three major services offered by the project: the Career Assessment Series, the Fast Track Seminar, and WE CAN, an organization for program graduates.

School of Justice Studies, ASU. The Justice Studies Department was the administrative home of the project as a whole and the Fast Track Seminar in particular. The department's Chair, Dr. Kelly, was the project's Principal Investigator and supervised the staff in planning, facilitating, and documenting Fast Track activities. Other project staff for this component included Senior Research Specialists who acted as coordinators and research assistants, support staff, and several half-time graduate assistants.

The Career Services Office, ASU. A student career counseling center is a five-minute walk away from the School of Justice Studies. This office was the administrative home of the Career Assessment Series, a short-lived project component, and the Job Club. Four student-counselors were hired by the Career Services office specifically for Operation StepOut to work exclusively with Operation StepOut participants.

Governor's Office for Women (GOW). The third component of the project's administrative structure and the formal grantee, GOW's role evolved considerably during the course of the project. During the first year of the grant, GOW offered no direct services to participants, but performed a modest monitoring function. During the second phase of the project GOW became more active. A special coordinator was hired full-time to conduct outreach and marketing, communicate with employers, assist in the expansion of the program into Tucson, and help run WE CAN, a network organization for program terminees.

THE IMPLEMENTATION EXPERIENCE

RECRUITMENT AND SELECTION OF PARTICIPANTS

Originally targeted to separated military personnel, civilians working on bases, and private sector defense workers, Operation StepOut almost immediately changed its focus to the latter group once the project got underway. Staff offered two reasons for the low enrollment of service members. First, the local Air Force base had already closed and its personnel relocated or disbanded by the time the project was fully operational. Second, staff encountered a strong "we take care of our own" stance when they did approach base transition centers. [3] By the end of the project, only five separated military personnel had enrolled in the program.

Turning their outreach efforts to private defense contractors, Operation StepOut Staff encountered many challenges. During the first year, staff met with significant reluctance on the part of defense firms to cooperate with the program by providing the names of affected female workers. Some employers preferred to keep their layoff schedules and lists secret in an attempt to protect workforce morale. Other employers preferred to send their laid off employees to outplacement centers. As a result, Operation StepOut's recruitment strategy during the first year gradually evolved from trying to work with *any* defense contractor to targeting two or three firms that agreed to allow Operation StepOut staff access to their workers. While in the end an impressive total of 39 firms contributed participants, almost 70% of the participants originated from just two firms: Allied Signal and McDonnell Douglas. McDonnell Douglas lacked adequate staff in the Human Resources Division to assist the large numbers of workers being laid off, so management took full advantage of Operation StepOut's offer to provide female workers with no-cost transition services.

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[3] Operation StepOut's experience in trying to serve base workers was not unusual in this demonstration. Several projects had expected a much higher degree of interest in their programs than they actually received from at-risk or laid off base workers.

Operation StepOut continued having trouble recruiting laid off defense workers, despite increased efforts throughout the next year (for example, a marketing specialist was hired in 1994 and GOW was given additional responsibilities to reach the target population.)[4] Although there is little evidence to suggest a deliberate shift in strategy, the program began to recruit more and more women whose jobs were not scheduled for elimination, but who believed their jobs might still be at risk due to defense cutbacks. By the end of the project, only about a quarter of those who enrolled had been laid off at the time they started the program. Furthermore, many of these women were still employed with the same firm well after completing the Operation StepOut program. All but two of those women who were employed when they enrolled in Fast Track and for whom the project was able to obtain followup data were still employed in the same job three months after they completed the program. Only two of the forty employed Fast Track enrollees had been laid off at the time of the followup contact.

This unanticipated trend toward serving those whose jobs were apparently not at risk caused some problems, since the designers of services had assumed that most enrollees would be newly laid off and highly motivated to search out new, promising careers and employment possibilities. Instead, a large number of Operation StepOut participants seemed to view the program as an opportunity to review their future career options while still employed.

The enrollment of women whose jobs were not scheduled for elimination also makes it difficult to assess the project's progress in meeting its goals and its overall effectiveness as a worker mobility strategy. For example, if an individual completing the program is still employed in the same job as when she enrolled, is this a sign of program success or failure? On the one hand, job retention may have been a result of the information a participant gained from participation—if, for example, it improved her ability to communicate effectively with male managers. This would be a positive outcome. On the other hand, perhaps the job was never seriously at risk and therefore there was no need for intervention of any kind. This would suggest that the participant was not appropriate for the service. Alternatively, perhaps the job *was* at risk, and the fact that the participant was still employed at the end of the program suggests that the program failed to help her find another, more secure job.

SERVICES OFFERED

All potential participants were invited to attend orientation sessions, which during the height of program operations were held about once a month and lasted for two or three hours. Most orientations attracted at least a dozen interested women, but some were attended by as few as five or six. Sessions were usually run by a consultant hired by Operation StepOut, who explained the curricula in the two components, passed out forms, and signed people up for an intake session.

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[4] When StepOut staff encountered resistance from some employers, and could not "get in the door" on their own, they found that they could improve their access to affected workers by "piggybacking" on the efforts of the local Economic Dislocation and Worker Adjustment Assistance Act (EDWAA) Rapid Response Team. Contact between the Rapid Response Team and StepOut took place nearly 10 months after the project began, and immediately led to increased enrollments. The Title III coordinator also benefited from this arrangement, because it allowed the Rapid Response Team to offer a wider range of services to female dislocated workers.

At the intake session, each participant met with her assigned counselor to assess her skills, background, career goals, and preferences. A decision was reached jointly about whether the participant would apply for Fast Track or the Career Assessment Series (CAS). Fast Track applicants were screened for professional potential, and promising candidates encouraged to participate in this component.

In the end, Fast Track began to be viewed by staff and students alike as "the next step" after Career Assessment. This "sequential model" was quite different from the model used during the beginning of the program's implementation period. As a result of this shift, over half of Fast Track participants also participated in Career Assessment.

Those who enrolled in the Career Assessment Series attended a 15-session program (shortened to 12 sessions, and then eight during the second phase) at the campus Career Development Center, where they participated in a fairly standard but well-run Career Development program. A total of 17 sessions were conducted. Many sessions were held in the evenings and on Saturdays to accommodate women who worked. All terminees were entitled to up to four free one-on-one counseling sessions. However, few took advantage of this offering. The explanation for this was that most women who participated in Operation StepOut turned out to not be actively looking for jobs.

The Career Assessment Series was operated almost independently of the Fast Track component from the start, and served almost three-fourths of all Operation StepOut participants. By the time the project entered its second phase, however, Career Assessment Series enrollment had dropped substantially and its importance for the project had diminished. This shift was in part caused by the departure of the Director of the Career Services Office, which deprived this component of a strong advocate.

We saw little sign that the Career Assessment Series had been adapted to the particular needs or characteristics of either females or defense workers. Nevertheless, the program seemed to be quite popular. In a customer satisfaction survey of about 155 Career Assessment Series participants the majority reported a positive experience:

- 93% agreed that CAS provided the information they anticipated
- 87% gave a very good or excellent "overall rating"
- 22% wished the program provided more information on education goal attainment

In sharp contrast to the Career Assessment Series component, the Fast Track component made the special needs and experiences of mature, working women the heart of its philosophy and curriculum. Those who enrolled in Fast Track attended about eight sessions for a total of 48 hours spread over a two-to-four month period. As in the Career Assessment Series, the number of sessions was reduced in response to scheduling conflicts reported by participants. Fast Track Seminars were run very much like seminars for graduate students, complete with lectures, a reading list, research project assignments, guest lecturers, and student presentations. By the end of the project, seven Fast

Track Seminars had been conducted, one of which was in Tuscon, about a three-hour drive from Phoenix. About 15 to 20 women participated in each seminar, with the project preferring the larger class sizes to facilitate more effective work in small groups.

Fast Track instructors continuously tinkered with the curriculum, adding or deleting topics for discussion. Over time, they directed more attention to facilitating successful job searches, and towards the end of the project, staff devoted substantial "one-on-one" time to helping individual women. One innovative module—"Career Cycling, or how to survive your firm's downsizing"—was added towards the end. Overall, however, Fast Track gradually moved towards becoming a more traditional job search assistance program.

Operation StepOut also offered a networking organization, eventually called the Women's Entrepreneur and Career Advancement Network (WE CAN), to which program "alumnae" could belong. The GOW eventually took over responsibility for this activity. WE CAN was supposed to be an organization where Operation StepOut participants could find mentors and peer support in their job search and career decisions. Initially, meetings were held regularly, often with an invited speaker and always with time for informal "networking." At least a dozen of these events had occurred by the end of the project but attendance gradually decreased to the point where major events drew only a handful of women. Again, as the statistics below show, it turned out that most Operation StepOut graduates were not actively searching for work, accounting for the low interest in the activities offered by WE CAN organizers.

In addition to Fast Track and the Career Assessment Series, a third component called Job Club was initially planned, attempted, and then dropped as an independent service offering. The decision to eliminate the five-session standard job search activity was reached when very few women (37) signed up for it and staff felt that the sessions could be easily integrated into the Career Assessment Series component.

A key challenge for Operation StepOut from the beginning was to improve communication among the three partners and to better coordinate the functions they performed. Staff from each of the three organizations had little regular contact (although monthly meetings were arranged by the end of the first year), and little understanding of what the other two organizations did. There was no staff position that effectively straddled the three components.

As a result of inconsistent and ineffective communication between the two program components, the Career Assessment Series curriculum initially was not very differentiated from the standard campus career services program and not particularly responsive to the special needs of defense workers. Another result was that the two tracks tended to compete for participants, rather than collaborate to match applicants to the most appropriate service or to plan a sequence of services for the substantial number of participants who took *both* programs.

Finally, although GOW seemed well-positioned in the state to increase the visibility of the program among employers and potential participants, this resource was never fully utilized.

NUMBER AND CHARACTERISTICS OF PARTICIPANTS

Operation StepOut served more participants than any of the other worker mobility projects in the demonstration. According to the Final Report, written by project staff and released in December 1995, about 505 women attended an orientation session followed by an intake interview. Of these, 433 women entered programs. Most (304) entered the Career Assessment Series, and 177 enrolled in Fast Track. A substantial number (61) enrolled in both.

The project also claims a high completion rate. About 88% of those women who enrolled in the program completed it, where completion is defined as attending at least 60% of the scheduled sessions. Women in Fast Track were substantially more likely to complete the program than women enrolled in the Career Assessment Series.

Operation StepOut expected to serve laid off defense workers, but an analysis of the status of the women who enrolled clearly shows that such individuals were hard to come by. Of the 433 women who were active in the program, the majority (about 70%) were employed at the time of enrollment.

Operation StepOut recruited women who appeared to be rather well-positioned in the labor market, although not necessarily the women with the potential for key managerial positions the program was originally designed to serve. Most Operation StepOut participants were white, single or divorced, in their late 30s or early 40s, and employed full-time in a defense firm with a layoff foreseen. About 25% reported they worked in managerial/professional positions. Skilled or semi-skilled jobs were more typical (held by 42% of participants). Operation StepOut participants were typically strong earners—40% earned more than $35,000 a year in their current or last job—and had a college degree.

PROJECT OUTCOMES

One purpose of Operation StepOut was to enhance the ability of women to keep or find jobs with "fast track" potential. Fortunately, we are able to address, with a fair amount of certainty, the question of whether or not the program succeeded in meeting this goal. A great deal of data was collected on the participants, from the point at which they enrolled in the program up to as long as twelve months after they terminated from the program. Although we are not in a position to report net impacts of the program (there was no group with whom to compare the outcomes of StepOut participants) the data tell a fairly clear story about participant-level outcomes.

SELF-CONFIDENCE AND JOB-SEARCH SKILLS

StepOut sought to increase the knowledge and skills participants needed to make good career choices. Participants were tested in these areas before, during, and at various followup points after, participation. Several instruments were used to measure change.[5] Analysis of the data suggest that participation in StepOut improved career decision-making skills, increased utilization of job search strategies, and raised self-confidence. The improvement in these cognitive and socio-emotional characteristics was statistically significant, according to the project's final report.

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[5] The Career Barriers Inventory, the Career Planning Competency Inventory, the Job Club Check List and the Career Confidence Scale.

EMPLOYMENT-RELATED OUTCOMES

Attempts to observe participants' employment behavior were made up to four times for each participant: at program completion, and at 3-, 6- and 12-month intervals, thereafter. However, only 25% of program terminees completed all followup interviews introducing serious concerns about the reliability of the data.

As mentioned above, a surprising number of StepOut participants were already employed, and apparently securely employed at the time they enrolled. Over two-thirds of those completing a followup interview were employed at program entry. Only a small number of these women lost their jobs sometime in the next year. Of the 146 women who were employed at entry, 42% made some type of job related movement. The rest remained in the same position that they held when they entered the program. The data suggest that well under half of those interviewed several months after program completion were actively looking for work whether or not they were employed at program entry. In short, StepOut seemed to be serving women whose jobs were not terribly at risk and who were not particularly anxious to find new jobs. Nonetheless, we take a closer look next at what happened to the women who had been laid off when they sought out StepOut services.

Of the 55 women who entered the program in the first year, were unemployed at program entry, and responded to the questions on employment status, only 58% (32 women) had "made a positive change" after program completion (i.e., gotten a job). This is a far lower placement rate than the average EDWAA program. It must further be noted that, as described above, the Phoenix area was and is enjoying a low unemployment rate and a relatively healthy economy.

These results indicate that (1) the program may have recruited the wrong kind of participant (i.e., employed, not at risk, not motivated to find new work) and/or (2) the intervention did not appear to work very well even for those for whom the program might have been appropriate. Project administrators seem to concur with this conclusion when they write in the final report:

> Fewer participants were actively searching for other positions; and a larger proportion seemed to be using Operation StepOut as a way of enhancing their strategic career planning and overall managerial/leadership skills in general rather than as a vehicle to seek alternative employment.

The chart below summarizes the project's self-stated objectives, and the evaluation's assessment of whether those objectives were met.[6]

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[6] These objectives are paraphrased from the final report written by project staff at the end of the project.

OPERATION STEPOUT
PROJECT OUTCOMES IN RELATION TO OBJECTIVES

Objectives	Outcomes
Short-Term Objectives: To provide transitional workshops/ seminars/training and assistance to female veterans and impacted defense-industry workers as they face the challenge of moving from one lifestyle and organizational life to another.	Objective met. Career counseling and job search skills assistance were designed and delivered to more than 400 women. However, no services were developed to address problems faced specifically by defense workers transitioning to commercial employers.
To establish contacts within receiving employing organizations and to form a network that will provide needed support, mentoring, and other career assistance for the transitioning women.	Objective partly met. Organization for program terminees was created and maintained for many months; events were organized to educate women about issues and opportunities. Mentoring relationships did not occur, and very few contacts with local employers led to job opportunities for participants.
To develop prototypes of viable models for women of various racial, ethnic, and age backgrounds to advance to higher career levels.	Objective met. Career counseling and job search skills assistance designed and delivered to more than 400 women. Women from different age and ethnic groups participated.
To assist women in making successful career transitions, increase their leadership potential, and to equip them with skills necessary for continued career growth.	Objective partly met. Services led to significantly enhanced awareness of personal job skills and aptitude and self-confidence. Services did not appear to have a large effect on improving employability.
Long-Term Objectives: To utilize trained and skilled women to move America forward economically and socially.	Objective not measured.
To change business organizations' mode of defining the "external career" in a white, male-biased way.	Objective not measured. No services or intervention applied to firms to affect such change. Not enough women changed jobs or found jobs to have had an impact on business culture.

SUMMARY COMMENTS

Although the participant-level outcomes of Operation StepOut are, at best, mixed, the program's design and operation had two outstanding features. First, it was a highly innovative and unusual project. One unusual feature of StepOut was that it served women only, and addressed perceived gender occupational issues head on. StepOut also tested the notion of "networking," a method of job-hunting often touted as highly effective for job-seekers with strong occupational skills and experience. WE CAN was a networking organization designed to bring participants together with local business leaders and potential employers. WE CAN was an interesting, low-cost intervention that might have worked better with a slightly different population (i.e., one that was actively looking for work).

Second, the project got off the ground quickly and was fully operational within weeks of start-up. More than four hundred female defense workers received assistance. This well-documented and competently run project began with an untested idea, conceived by individuals who had little or no experience running employment and training programs, and ended up providing job search and career exploration services to a significant number of at-risk and dislocated defense workers in the Phoenix area.

Operation StepOut is clearly a novel approach and performed well in delivering planned services, but unfortunately failed to generate the results that either its designers or its funders were looking for. The key reason for this failure, we believe, is that the program did not initially accurately assess the level of need in the community, and ended up recruiting women who were simply not ready for or did not need the kind of services the program offered. Furthermore, Operation StepOut may have duplicated services that were already available, either through government funded job training programs or privately funded human resource services. In addition, the program operated in an environment that increasingly offered ample, attractive job opportunities to qualified dislocated workers.

FACT SHEET: DEMONSTRATION PROJECT

PROJECT EARN

Project Location	Titusville, FL	*Grantee*	McDonnell Douglas Aerospace East
Type of Approach	Worker Mobility	*Project Administrator*	Human Resources Administration, Office of Personnel Services and Training, McDonnell Douglas
Period Covered by Grant	November 1992–August 1994	*Key Contact*	Bunny Pollack, Project EARN Coordinator, Brevard Community College
Grant Amount	$497,249	*Geographic Area*	Brevard County, FL

Context

Titusville is located on the eastern coast of Florida in the region known as the "Space Coast," which is dominated by the presence of NASA's Kennedy Space Center and its surrounding aerospace and high-technology companies. As a result of declining expenditures for the space program and defense downsizing, the local aerospace industry declined significantly in the late 1980's and early 1990's. At the beginning of the demonstration, McDonnell Douglas' Florida Missile Production Facility was the largest employer in Titusville, employing about 1,700 workers. After the Air Force's Cruise Missile program was canceled in 1991, McDonnell Douglas eliminated 500 jobs.

Primary Goals

Project EARN attempted to assist McDonnell Douglas' dislocated workers in securing new jobs. The project was designed to:

- Create a partnership with Brevard Community College, which would serve as the primary administrator of services, including basic readjustment, assessment, career counseling and short-term training.
- Enroll 315 workers in the project, using early intervention to help prepare affected workers for new jobs in the commercial aerospace industry.
- Place 75% of those who completed transition services in new positions at a wage rate of at least 75% of their earnings prior to lay-off.

Key Players

- **McDonnell Douglas Aerospace East** — Formal Defense Conversion Adjustment (DCA) grantee and co-administrator of the project.
- **Brevard Community College** — Co-administrator of the project, provided direct services to project participants through two service locations, one at the firm and one at the community college.

Significant Outcomes

- Enrolled 282 participants in the project; 90% received a full package of basic readjustment services.
- Project had difficulty placing participants because high quality replacement jobs were not available without retraining; however, the wage rate for placements that were made was high.
- When the company lost the Tomahawk Missile contract in 1994, it was forced to close the entire facility.

PROJECT EARN
Titusville, Florida

THE CONTEXT

Titusville is among a cluster of Florida cities that helped launch the U.S. into the space age. Dubbed the "Space Coast," the region's economy is dominated by the presence of NASA's Kennedy Space Center. Aerospace and high technology corporations flocked to the area to be near the sprawling complex that launches the shuttle as well as other defense and commercial space vehicles. There are few other growth industries in the region except tourism. Local tourism is fueled mostly by NASA's exhibits and space launching operations that draw crowds from nearby beaches and from the city of Orlando.

The decline in the region's aerospace industry began slowly in the late 1980s, but accelerated in the 1990s. Several factors contributed to the erosion of aerospace jobs. First, Congress lost confidence in NASA after the Challenger disaster. Its diminished commitment to the space program was reflected in NASA's shrinking budget. This affected both commercial and military contractors since the shuttle's missions serve both defense and non-defense interests. Second, NASA's preeminent position as the most effective satellite launcher was challenged by newcomer European and Russian space agencies that seemed to put payloads in space cheaply and more reliably. Finally, budget cuts in defense, particularly aerospace procurements, hastened the Space Coast's economic decline. Aerospace firms began reducing their workforces, first through attrition, then through layoffs, as contracts were canceled or consolidated. Eventually the layoffs and slowdowns in launches affected other local industries, including tourism. By 1992, unemployment rates throughout Brevard County had climbed to between 8% and 9%.

McDonnell Douglas' Florida Missile Production facility was among the first aerospace firms in the area affected by defense cuts. The company was the largest private employer in Titusville, with 1992 sales of over $400 million, and it contributed an estimated $100 million to Brevard County's economy in wages and subcontractor procurements. The facility produced the Advanced Cruise Missile, for the U.S. Air Force and its sea-based brother, the Tomahawk Missile, for the U.S. Navy. In late 1991 McDonnell Douglas received word that the Cruise Missile program would be canceled, affecting more than 500 workers out of a total workforce of about 1,700.

The cancellation of the Cruise Missile program was the driving force behind the company's involvement in the Defense Conversion Adjustment demonstration. The cash-poor company wanted to provide its loyal workers with more extensive transition services than it could give them on its own. Training resources of the local Private Industry Council were also very limited. McDonnell Douglas' Human Resources Administration worked closely with Brevard Community College's Center for Career Development to design a transition program for dislocated aerospace workers.

In the spring of 1993, after Project EARN was underway, the company became aware of an even graver threat to its existence: the U.S. Navy had decided to award a single sole-source contract for the continuation of its Tomahawk Missile program. The company became immersed in the competition for this contract. In August 1994, as Project EARN was winding down its services for the dislocated Cruise Missile workers, McDonnell Douglas received word from the Department of Defense that the company had lost the bid for the Tomahawk Missile Program. A complete plant shutdown, with the loss of the remaining 1,200 jobs, was imminent.

GOALS AND STRATEGIES

Project EARN's primary goal was to rapidly reemploy workers in jobs requiring similar skills and offering similar compensation. The project was designed to reduce workers' spells of unemployment through early intervention. Workers affected by the layoffs were to be identified and served before being laid off, if possible, and services would continue for as long as it took to place each participant in a new job. Also, recognizing that the trauma of unemployment affects not only the worker, but other family members as well, Project EARN was to provide services for the families of dislocated workers.

In addition, the following specific objectives were identified in Project Earn's proposal:

- The program would enroll a total of 315 workers targeted for layoff.
- 284 clients, or 90%, would complete transition services.
- Of completers, 75%, or 213 workers, would be placed in unsubsidized employment.
- These placements would be in jobs paying at least $5.50 per hour, with an average placement wage of $8.00 per hour and with each individual's wage at least 75% of his or her wage at time of layoff.

KEY PLAYERS

McDonnell Douglas Aerospace East was the official administrator of Project EARN. The company's **Human Resources Administration, Office of Personnel Services and Training** helped plan the project and oversaw program operations and expenditures. In addition, staff from Human Resources scheduled benefits briefings for workers who were laid-off and shared personnel information with Project EARN staff. The company also contributed in-kind assistance, including staff time and office space, and provided computers and software and other materials.

Brevard Community College's Center for Career Development was subcontracted by McDonnell Douglas to run the project's day-to-day operations. McDonnell Douglas staff cited the partnership between the company and the college as one of Project EARN's key innovations. Staff at the college were experienced in serving aerospace employees; they had provided training to employees of local aerospace firms and had worked with dislocated aerospace workers during the layoffs at the Kennedy Space Center after the Challenger accident. The Center was also an experienced provider of training and readjustment services for mainstream Job Training Partnership Act (JTPA) participants.

Project planners originally envisioned a consortium of aerospace firms, with skilled workers dislocated from any participating firms eligible to receive readjustment and retraining services. However, planners' early attempts to involve other aerospace firms experiencing layoffs were rebuffed. Local aerospace firms tended to be competitive and highly secretive. Joining the consortium would have disclosed some of their own economic hardships. Only McDonnell Douglas formed a partnership with the college to design intervention services for its own workers.

While Project EARN was underway, local defense firms continued to show little interest in conversion. Most firms were only beginning to feel the ill effects stemming from budget cuts, and companies were uncertain as to whether the trend would be short-lived. McDonnell Douglas did not actively attempt to stimulate their interest, or-to expand participation in the project. By this time, all of the company's energies were focused inward on winning the sole-source contract for the Tomahawk program, without which the company could not survive.

THE IMPLEMENTATION EXPERIENCE

RECRUITMENT AND SELECTION OF PARTICIPANTS

Outreach and recruitment had the potential to become one of Project EARN's most innovative features. But the recruitment process envisioned by its planners never materialized. The plan called for early intervention: affected workers would be identified as soon as possible and receive help while still employed. The assumption by project planners at McDonnell Douglas was that the company would provide early notification to workers who would be laid off in the months to come. As it happened, while workers knew early on that layoffs were imminent, they did not know which individuals would be affected until much later. Workers were given notice only a few days before being laid off. McDonnell Douglas managers gave several reasons for this secrecy, including concerns that low worker morale would affect productivity, and problems identifying which workers covered by collective bargaining agreements would be cut because of union seniority issues and the "bumping" process.

The project also experienced early problems recruiting dislocated workers into the program, because Project EARN did not receive its funding until after a substantial number of workers had been laid off. In anticipation of the end of the Cruise Missile program, McDonnell Douglas began laying off small numbers of workers as early as October 1991. About 200 workers were out of work before the project got off the ground in January 1993; some of these had been laid off nearly a year earlier. Thus, Project EARN staff were faced with the daunting task of trying to contact workers distrustful of any service associated with McDonnell Douglas, including those who had accepted jobs at much lower wages and those who had moved to look for better jobs.

Project EARN was not as successful at enrolling these workers who had already been laid off for some time as they were in enrolling workers reached at the time of being laid off or soon thereafter. Only about 20% of the project's participants were from the first layoff group.

Once the project was operational, the recruitment process was closely linked to the layoff process. As the project progressed, Project EARN staff recruited most or all of the people who attended layoff orientation sessions held by the firm. During the benefits briefing held just a few days before workers were terminated, Project EARN staff discussed services available through the project and encouraged participants to schedule intake appointments on the spot. The firm also shared some employee contact information with Project EARN, so that staff could contact affected workers after layoff to recruit and enroll them.

CHARACTERISTICS OF PARTICIPANTS

The background, skills, and experiences of workers at McDonnell Douglas varied more than one might expect for workers at a high technology aerospace company. The term "high technology" is misleading. Many of the components manufactured at McDonnell Douglas were assembled through painstakingly slow processes of weaving, bending, folding, punching, drilling, and coating. The closing of the Cruise Missile production line affected managers and professionals, technical and skilled workers, administrative and clerical workers, and unskilled laborers. In short, some affected workers were very highly skilled and some had very limited transferable skills.

Generally, participants had from eight to 12 years of work experience in aerospace. Most workers were between 30 and 55 years old.[1] Participants spanned the spectrum from those without high school diplomas who had difficulty reading to those holding advanced degrees; a high school diploma was the typical educational level attained by affected workers, but many also had additional vocational training or college degrees. About half of the project participants worked in processing and machine trades, 20% held clerical or other white collar jobs, and 30% held professional, technical, or managerial positions. The wage of a typical laid-off shopfloor worker was between $11 and $12 per hour. The average hourly rate of affected managers and supervisors over the same period was $17.91 per hour. Union workers and managers alike were well compensated in terms of vacation, medical coverage, and other benefits.

SERVICES PROVIDED

Project services were offered at two locations. For about a year, a Project EARN case manager was stationed at the McDonnell Douglas facility in Titusville to serve those who lived nearby. Most of the case management and readjustment services were offered at Brevard Community College, about 15 miles south of Titusville. Because Project EARN staff found that many participants felt uncomfortable returning to the company for services, participants were given the option of going to the Titusville facility or the community college. Eventually, the on-site readjustment office conflicted with the company's space and security needs and all services were moved to the college.

Among Project EARN's strengths was a well-integrated package of core basic readjustment services. All participants who enrolled in Project EARN received a package of core services through a three-day "employability skills" workshop. Entry into project services began with an individual session with one of the project's two case managers. A preliminary re-employment plan was started at this session. The plan was completed after participants had been assessed and participated in the employability skills workshop.

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[1] Some of the most difficult participants to serve were older workers who had accepted early retirement. Of those who completed the program by June, 1994, 14% were age 55 or older. Staff noted that these workers tended to be harder to serve for two reasons. First, employers were less willing to hire them. Second, workers with pensions were holding out for the perfect job. They were less inclined to accept jobs that did not pay as well as their jobs at McDonnell Douglas.

Participants in Project EARN received a thorough assessment. The project used a number of instruments during assessments. Any participant with less than a two-year associate degree was given the Test of Adult Basic Education (TABE). Those testing below the eighth grade were referred to Brevard Community College's Student Services for more extensive testing. In addition, as part of the three-day transitional skills workshop, all Project EARN clients were required to participate in Career Discovery, an assessment program consisting of three instruments: Career Ability Placement Survey (CAPS), the Strong Campbell Interest Inventory, and the Myers-Briggs Personality Type Indicator. In addition, individuals could take additional tests, upon recommendation of their Case Manager, to further clarify job aptitudes and career interests. These results were tabulated in the school's vocational assessment program, which analyzed transferable skills.

The core basic readjustment services were delivered through the three-day "employability skills" workshop, which emphasized transitional skills training, including career decision-making, employability skills training, resume writing and interviewing skills, and job placement assistance. Other readjustment services were available through Project EARN's ongoing Job Club. Meetings were designed to provide participants with important information about coping with layoffs. Programs featured guest speakers presenting topics such as coping with job loss, self-esteem, surviving the layoff with a sense of humor, consumer credit, and advanced interviewing techniques. Unfortunately, attendance at Job Club events was usually low. Project staff tried to increase participation (with limited success) by advertising, sending special announcements and scheduling events so that they would not conflict with job search activities.

Although the proposal for Project EARN had emphasized innovative design of the project's "family oriented services," such services in practice received little emphasis. Because they assumed participants would be placed in a relatively short time, project planners also did not plan for the delivery of financial supportive services to project participants. Some counseling was made available to project EARN participants (not families) but this was not systematically available to all. The counseling services of the community college were available to participants enrolled in college courses. McDonnell Douglas also authorized its own personnel counselor to provide assistance to Project EARN participants, and the individual in this position related a few instances in which she had intervened to help participants during a crisis. But no matter how helpful the counselor, the last thing that many of the laid-off workers at Project EARN wanted was assistance from an individual employed by McDonnell Douglas.

Family members were invited to attend some of the job club presentations, but they rarely did so. Some were unable to attend because of child care responsibilities. Case managers at Project EARN also lamented that the lack of financial assistance for child care prevented some workers from participating in basic readjustment activities or training lasting more than a few days. Staff were able to help a few participants enroll in other training programs, such as the Job Training Partnership Act

(JTPA), where funds for supportive services were available. In any case, systematic assistance geared towards helping families cope with unemployment was not available through this project.

The service design that was developed for Project EARN was based on an optimistic economic forecast. Planners speculated that many skilled production workers could find jobs in other non-defense aerospace firms or high technology firms, such as NASA contractors, by upgrading their skills to meet commercial manufacturing standards. Project planners failed to take into account that non-defense firms were hurt by the concomitant budget cuts to NASA. In fact, the two companies cited in the Project EARN proposal as examples of potential employers of dislocated McDonnell Douglas workers were actually laying off some of their own employees. By the time Project EARN submitted its Defense Conversion Adjustment (DCA) proposal, most local aerospace firms were laying off workers, albeit quietly.

Because they were overly optimistic about the health of the local economy, planners were convinced that basic readjustment services and short-term training were appropriate strategies to get people back to work quickly. Project EARN's design for retraining emphasized coursework of relatively short duration. A broad range of training options was available. Through Brevard Community College and other local training facilities, course offerings included education, either to brush-up skills or to obtain a General Equivalency Diploma (GED), general education coursework needed to complete a degree, technical training in vocational fields to enhance current technical skills, as well as training in health and other medical fields, manufacturing quality and logistics, and entrepreneurial skills.

Among the effects of the worsening economy on Project EARN was a higher than expected demand for retraining services. Competition for scarce jobs at local high tech firms was fierce. Many participants turned to training, either to give them an edge in the job market or to change careers altogether. This presented Project EARN with one of its earliest dilemmas: whether to offer training to everyone who wanted and needed it, or to limit the number of participants eligible for training. Project staff remained committed to providing training services for all participants who needed it, but were forced to spread resources rather thinly.

Most participants interested in training received project support for between $400 and $600 in training services. Project staff encouraged participants to enroll in classes available at modest cost, such as those offered by community colleges. Individuals who needed training of shorter duration, such as learning a specific computer application, received enough to pay for their instruction. Students needing more extensive coursework, on the other hand, often had to find other funding sources to supplement the training support received from Project EARN. This was the case for those working toward an associate's degree in the health and medical fields and in some of the technical/vocational fields.

Of the 150 workers who received retraining services, most attended relatively short courses such as computer literacy (57) and technical training (41). A substantial number, however, enrolled in training of longer duration, commonly in health-related fields (24), and in general education courses needed to complete degree requirements (20). In a few instances, participants requiring more extensive training were transferred to other programs, such as JTPA Title II-A or Title III, to take advantage of additional training funds.

Job development assistance was conducted by Project EARN's two case managers. The case managers worked with participants to find appropriate employment as they became job ready. They also marketed Project EARN participants to area companies. Job developers had to overcome some local businesses' stereotyped view of defense workers as lazy, overpaid, and underskilled. Job developers' efforts were also made more difficult because McDonnell Douglas had called back some employees during the project period (22 by June of 1994), and was planning to recall more workers if it succeeded in winning the Tomahawk project (which it did not). Local businesses were unwilling to hire workers who were certain to return to McDonnell Douglas if given the chance, knowing that union members' benefits and tenure would be reinstated.

In the early months of the demonstration, case managers had very high caseloads: two staff were responsible for the 200 workers already laid off. As a result, case managers could devote little time to job development efforts. Project staff said that a dedicated job developer position should have been added early in the project to relieve case managers of some of this burden and provide more effective job development. As it happened, case manager caseloads slowly declined, mainly through attrition, as participants entered training programs or dropped out of the project altogether. Case managers were able to increase their job development activities as the caseloads lightened. Staff expected that during the final months of the program nearly all of their time would be spent developing jobs for the remaining participants.

PROJECT OUTCOMES

Placement emerged as Project EARN's key challenge. During the period when Project EARN was operating, workers were being laid off from both high-technology and tourist industries, and there were few comparable job openings. Placement was significantly slower than expected.

Although participants were finding jobs at a slower pace than expected, those who did find employment typically received wages at or near the project's specified wage goals. As of November 31, 1993 the typical placement wage range for non-supervisors/managers was between $8.63 and $9.36 per hour. For managers and supervisors, the average placement wage was $15.30, or 85% of the average layoff wage. Of the 126 who found jobs by June of 1994, 37% were earning between $5.01 and $8.99 per hour, and 21% were earning between $9 and $16.99 per hour. Only a few participants, 6%, made less than $5 per hour—below the wage goals established by the project. Project staff recognized that in Brevard County's stressed economy some participants needed to either relocate or accept wages well below their prelayoff wages.

One of the project's dilemmas in reporting participant outcomes was how to report employment for participants who took temporary positions. This was an increasingly common outcome, not just for clerical staff, but also for middle-level managers and professional workers. The project decided to report these individuals as inactive and wait to terminate them until they were hired as permanent full-time workers.

The following table summarizes original project objectives and outcomes relevant to each:

PROJECT EARN
PROJECT OUTCOMES IN RELATION TO OBJECTIVES

Objectives	Outcomes
Provide early intervention services, in advance of layoff.	Objective partly met. A late start meant that 200 workers were laid off well before the project was underway. Once the project was operational it did succeed in reaching additional workers close to the time of layoff.
Provide extensive transition services, including supportive services for families.	Objective partly met. Brevard Community College provided a thorough and effective package of basic readjustment and training services. However, supportive services were never provided.
Enroll 315 workers targeted for layoff.	Objective partly met. A total of 282 workers were enrolled.
90% of enrollees will complete transition services.	Objective met. Although it is not known how many clients completed training, 256, or 90% of enrollees, completed basic readjustment services.
75% of completers will be placed in unsubsidized employment.	Objective not met. A total of 147 clients received job placements. This represents 56% of those who completed basic readjustment services.
Placement wages will be a minimum of $5.50 per hour and an average of $8.00 per hour, and individual wages will be at least 75% of layoff wage.	Objective met.

SUMMARY COMMENTS

After a difficult start-up period, Project EARN provided effective readjustment services to many McDonnell Douglas employees soon after they were laid off. Staff of Brevard Community College were highly qualified, and provided a comprehensive package of services, linking clients to outside services when needed. Yet despite some competently delivered services, the project did not succeed in testing any truly innovative service elements. Indeed, the readjustment services were similar to well executed responses to other layoffs and closures conducted through JTPA Title III.

The project's service design was unrealistic in its emphasis on short-term training and basic readjustment services. As the economy began to deteriorate, it became apparent that more extensive training and supportive services were needed. Supportive services and services for workers' families, presented in the proposal as innovative project features, never materialized. Some workers could not participate because of child care responsibilities.

The partnership between McDonnell Douglas and Brevard Community College, also cited in the proposal as an innovation, might have benefited from the participation of additional companies. Input from other local employers in the planning stage might have resulted in a more realistic economic forecast, and in a service design better reflecting the need for long-term training. In the operation of the project, McDonnell Douglas, as the grant recipient, failed to provide the leadership and commitment needed to support the project's innovative features. The company's commitment to the project waned, after key staff in the Human Resources division were themselves laid off or left the company. McDonnell Douglas demonstrated less interest in Project EARN over time as the company became further immersed in the struggle for its own survival.

FACT SHEET: DEMONSTRATION PROJECT

SAN DIEGO COUNTY COMMUNITY PLANNING PROJECT

Project Location	San Diego, CA	***Grantee***	San Diego Consortium and Private Industry Council
Type of Approach	Dislocation Aversion, Worker Mobility	***Project Administrator***	San Diego Consortium
Period Covered by Grant	November 1992–June 1994	***Key Contact***	Ron Grabler, Coordinator, San Diego Consortium
Grant Amount	$470,660	***Geographic Area***	San Diego County, CA

Context

In the early 1990's, San Diego County was one of the most defense-dependent regions in the country. When defense downsizing began, the impact was expected to be severe: 50,000 relatively high-wage jobs were expected to be eliminated between 1989 and 1996. The San Diego Consortium and Private Industry Council took the lead in planning for economic development, securing funds from the California Trade and Commerce Agency and the Department of Defense's Office of Economic Adjustment prior to the demonstration period.

Primary Goals

The Defense Conversion Adjustment (DCA) grant supported activities that were part of the larger ongoing strategic planning process. The grant supported efforts to:

- Assess the skills needed by local employers.
- Design and provide skills training to enable dislocated defense workers to secure new jobs.
- Develop the capacity to support the conversion of high-technology companies to commercial markets.
- Create new employment opportunities for dislocated workers by supporting new business start-ups.

Key Players

- **San Diego Consortium and Private Industry Council (PIC)** — Formal DCA grantee and primary administrator of grant-supported activities.
- **CONNECT Program of the University of California at San Diego** — Conducted Defense Conversion Roundtables; provided entrepreneurial training for dislocated workers interested in starting high-technology businesses.
- **Center for Applied Competitive Technologies at San Diego City College** —Providing training and technical assistance to at-risk firms and dislocated defense-workers.
- **San Diego Economic Development Corporation** — Conducted surveys and compiled information to inform the planning process.

Significant Outcomes

- One hundred and forty dislocated defense workers received training; entrepreneurial training was particularly effective, leading to the creation of 18 high-tech business start-ups.
- Six Defense Roundtables were held.
- The project did not develop early intervention services for firms transitioning to commercial markets.

SAN DIEGO COUNTY DEFENSE CONVERSION ADJUSTMENT DEMONSTRATION

San Diego, California

THE CONTEXT

Prior to the defense drawdown, San Diego County was one of the most defense-dependent regions in the United States, with several large military installations and dozens of large and small defense contractors and subcontractors. Fueled by a strong economy with unemployment well below the national average (a low of 3.9% in 1989), San Diego County experienced rapid growth throughout the 1980's. During the early 1990's, however, economic growth slowed and unemployment rose, in part because of the national recession, but also in large part because of cutbacks in the defense sector.

Massive cutbacks by defense contractors and subcontractors were a blow to the San Diego community. At the beginning of the 1990's, San Diego defense firms employed over 70,000 people. From 1991 through 1993, an estimated 16,000 of these workers were laid off, and this downsizing was projected to continue for several years. Because of the impact of these layoffs on the regional economy, projections are that over 50,000 jobs will be lost in San Diego County between 1989 and 1996.

The layoff of large numbers of defense workers presented a serious challenge to the San Diego community. The defense manufacturing jobs that were lost had offered wages significantly higher than those of other local jobs in non-defense manufacturing and services. In addition, a large proportion of the dislocated workers were highly skilled engineers, technicians, and managers. Facing a job market flooded with job seekers with similar skills, many of these workers remained unemployed for months or even years, with little hope of finding employment in San Diego in their fields of expertise.

Beginning in 1990, the San Diego community actively addressed defense conversion issues through task forces that brought together representatives from state and local government, employment and training agencies, educational institutions, community-based organizations, and private industry. In 1992 San Diego received funds from the California Trade and Commerce Agency and the Department of Defense's Office of Economic Adjustment to develop an economic adjustment program. Conducted by the San Diego Consortium & Private Industry Council, the project included the active involvement of a work group of individuals from organizations such as those listed above. When the Defense Conversion Adjustment (DCA) demonstration request for proposal (RFP) was announced, several interested members of this work group met. Based on what they were learning through the economic adjustment project, these individuals, representing several San Diego organizations, identified several activities for inclusion in the DCA demonstration proposal that seemed particularly congruent with the goals of the DCA demonstration and that would further the area's long-term defense conversion strategy.

GOALS AND STRATEGIES

Because the San Diego demonstration project was based on a comprehensive long-term economic adjustment strategy and involved several different agencies interested in different aspects of defense conversion, the DCA project goals and objectives were quite sweeping and ambitious. The project involved several major components, each with its own distinct goals and activities. Indeed, the San Diego project was the only DCA project that tested strategies in each of the three approaches: community planning, worker mobility, and dislocation aversion.

The proposal listed four broad goals: (1) develop the knowledge base needed to identify and provide appropriate readjustment and retraining services to dislocated defense-related workers; (2) demonstrate an effective process for developing local capabilities in skills training for high-technology industries, including entrepreneurship training; (3) provide a reality-based, well-integrated system of technical assistance and early intervention services to at-risk firms and employees; (4) create new high-tech employment opportunities for displaced or at-risk workers, either in new growth industries or through self-employment resulting from commercial application of defense research, products, or technologies.

To attain these goals, the proposal identified ten specific objectives:

- Develop a defense conversion database to be used to design and implement appropriate readjustment and retraining services for dislocated defense workers, and to provide technical assistance and early intervention services to at-risk defense firms and employees.
- Provide a variety of entrepreneurship training components for up to 150 dislocated and at-risk defense employees.
- Provide training for at least 140 dislocated and at-risk defense employees.
- Provide training and technical support for at least five dislocated and at-risk workers to start new businesses.
- Develop a human resources database to link dislocated and at-risk workers to known sources of demand for their skills, thereby shortening the average time between dislocation and job placement.
- Create at least five startup high tech enterprises through the Defense Conversion Roundtable and High Tech Entrepreneurship component.
- Use CONNECT Roundtable meetings to improve technology transfer between defense research, products, and technologies and commercial markets and applications.
- Use the Human Resources Database developed through the Economic Conversion Program, the Economic Development Corporation (EDC), CONNECT, and the Career Center to identify areas of critical need for skills training, both current and future.

- Use the Technical Assistance and Early Intervention component to avert further dislocations among at-risk companies by addressing the defense industry customer/supplier network and working with defense companies to find suitable commercial markets for existing products.
- Retain San Diego's high value-added industrial base by providing support and retraining for skilled dislocated defense workers to find jobs in other high tech occupations.

KEY PLAYERS

This project brought together four organizations in an active partnership.

The **San Diego Consortium & Private Industry Council**, which administers all of the Job Training Partnership Act (JTPA) programs in San Diego County, was the lead partner. Since 1989, the Consortium had served thousands of dislocated defense workers. To assist workers dislocated from defense and other industries, the Consortium developed a network of "one-stop access" Career Centers across San Diego County that provide basic readjustment and retraining services. The Project Coordinator, Job Developer, and support staff for the DCA demonstration were housed in the largest of these Career Centers.

The **CONNECT program of the University of California at San Diego** uses a wide range of educational and networking activities to pursue its goals, which are "to help high-tech companies in San Diego become more successful, educate service providers to support high-tech industry more knowledgeably, create linkages between the University and local industry and, through these, stimulate local economic development." CONNECT conducted two activities for the demonstration: a training course for dislocated defense workers in starting high-technology businesses and defense conversion roundtables, which brought together senior executives from defense firms to learn about opportunities for expanding into commercial high-technology markets.

The **Center for Applied Competitive Technologies (CACT)** at San Diego City College is one of the State of California's eight regional manufacturing centers and a National Institute of Standards and Technology (NIST) Manufacturing Technology Center affiliate. The Center provides technical assistance and training services to fulfill its mandate of helping San Diego manufacturing companies modernize and compete more effectively in the global economy. For the demonstration, CACT developed and provided training to dislocated defense workers in CATIA (three-dimensional design software) and modern manufacturing skills (such as Total Quality Management and Manufacturing Resource Planning).

The **San Diego Economic Development Corporation (EDC)** is a private non-profit organization that seeks to retain and attract businesses for San Diego County. EDC conducted several activities for the demonstration, including conducting a survey of local businesses and creating a database from the results.

One of the strengths of this demonstration project was the active partnership between the participating organizations. The Consortium was the grantee and oversaw the activities conducted by the other partners (who had subcontracts with the Consortium). All of the partners, however, participated in the hiring of the demonstration project coordinator, and the whole team met monthly to review progress toward goals and resolve problems as a team. This active partnership led to increased cooperation and coordination in securing funds from outside of the demonstration. For example, the partners brought their experience working together on the demonstration to the design of a three-year $5.7 million grant from the Department of Commerce's Economic Development Agency, awarded in early 1994. This project included a variety of activities conducted by the four demonstration partners and several other organizations, including a high technology resource center, a business incubator, a world trade center, a seed capital fund, and a technology alliance council.

THE IMPLEMENTATION EXPERIENCE

Because of the sweeping and multi-faceted nature of the demonstration's goals, project staff found that they could not pursue all of the goals within the constraints of project funding. Worker mobility components of the demonstration ultimately received by far the most attention, while dislocation aversion received the least attention. In particular, the strategy of providing technical assistance and early intervention services to at-risk firms was not pursued during the demonstration period. Project planners had not developed a specific plan for these dislocation aversion activities or included them in the project budget, so they were set aside in favor of other activities that had been more thoroughly developed in the planning stage.

COMMUNITY PLANNING ACTIVITIES: IDENTIFYING SKILLS IN DEMAND

In seeking to design training programs for large numbers of white-collar workers in a rapidly-changing job market, the Consortium was frustrated by the limitations of traditional methods of developing labor market information. Therefore, one of the goals of the project was to develop and test a "Human Resources Database" as a new tool for determining skills in demand in the local job market. To accomplish this goal, the Economic Development Corporation (EDC) designed and conducted a survey of local employers. After receiving only 44 responses to an initial mail survey of 1,000 San Diego manufacturing firms, EDC resurveyed a sample of 500 firms by fax, more than doubling the number of responses (110 surveys). Although limited in size, the sample of responding firms was judged to be representative of San Diego County in terms of firm size, industry, and type of business.

The survey provided the project with several useful pieces of information, including hiring projections for 1993 and 1995 and a ranking of skills in demand. Hiring projections indicated that the local economy would remain flat throughout 1993 before beginning a slow expansion during 1994. The skills that employers said they were looking for in new employees were the following, in order of the frequency of response: Total Quality Management (TQM), quality assurance, problem solving, document control, and material safety. In response to the survey, the CACT developed a course in these five skills for demonstration participants (described in detail below). The survey also asked respondents if they would be interested in hiring an engineer or technician trained through the program, and the demonstration job developer followed up with those who expressed interest.

The project compiled the survey results into a Human Resources Database. The project planners had hoped to combine this database with information from two previous surveys into a master "Defense Conversion Database" that would inform all of the workforce retraining defense conversion activities being conducted in the county. They were not able to combine the databases in the way they had hoped, however, because the three surveys had been conducted at different points in time and lacked enough overlap in the questions that were asked.

The project partners learned a number of lessons through this attempt to develop an effective method of generating labor market information. They came away from the experience convinced of the value of such a survey for generating useful information, but also more aware of the challenges of designing, administering, and analyzing a survey. For future surveys, they plan to consider contracting with a market research firm.

WORKER MOBILITY ACTIVITIES: RETRAINING DISLOCATED DEFENSE WORKERS

The San Diego demonstration included three major classroom training components: training in starting a high-technology business, training in CATIA (three-dimensional design software), and training in modern manufacturing skills (including Total Quality Management and Manufacturing Resource Planning). These three activities were targeted toward different groups of defense workers. In addition to these courses, a subset of the CATIA trainees also received instruction in semiconductor manufacturing. All of these retraining services are described below.

The goal of the **High-Technology Entrepreneurial Training Program**, conducted by CONNECT, was to provide training that would lead to the development of high-tech businesses that not only would generate income for the entrepreneur, but also would grow and provide employment for other laid-off defense professionals. The training was made up of four elements: seminars on the "nuts and bolts" of starting a company, student presentations of their proposed companies to a panel of experts, a short "mentorship" with an executive in a high-technology company, and individual counseling. CONNECT developed this training with a consideration of the time limitations of class participants (many were conducting a job search or working in part-time, temporary employment). Three-hour seminars were held one afternoon a week for approximately three months, augmented by two all-day workshops. Recognizing the advanced level of the participants, CONNECT staff found top professionals to teach each of the seminars. To assist in the development of all phases of this course, CONNECT brought together an Advisory Panel of San Diego professionals with expertise in high-technology entrepreneurship (including attorneys, accountants, trainers, and successful high-technology entrepreneurs).

CONNECT used several strategies to recruit applicants with a good chance of developing successful businesses, and found that the most effective outreach strategies were prominently placed newspaper articles and personal contacts. Training applicants went through a rigorous screening process. The first step was completing an application form that asked for detailed information about the proposed business, including: product and technology, marketing, finance, and management. Promising candidates went through personal interviews with CONNECT management. The Advisory Panel assisted with the final selections. Nineteen participants were enrolled in this program.

One of the unique aspects of this training course was its ability to link participants with sources of venture capital. CONNECT sponsors an annual event called the Financial Forum, which brings venture capitalists from all over the country to hear high-technology entrepreneurs present their business plans. One of the goals of the training was to help participants prepare to compete for a chance to present at the Financial Forum, or participate in a related event called the Concept Forum (for start-ups seeking less than $1 million in venture capital). Three class members presented at the Financial Forum, and five others participated in the Concept Forum.

At the end of the grant period, 18 of the 19 high-technology entrepreneur training participants were actively pursuing the development of their businesses (the 19th had found employment and had decided not to pursue his business at that time). The trainees' businesses were at various stages of development, with at least two already in the process of manufacturing a product, and several generating revenues. Many of the trainees were still working on activities such as incorporating and seeking venture capital. The following examples illustrate the wide variety of ways in which entrepreneurial training participants utilized defense technology for commercial applications:

- Two trainees became partners in a project to apply technology originally developed for submarines to monitor music played on all forms of media, which will radically enhance the mechanisms by which musicians are paid their copyright fees. Their company, which was featured in a recent Wall Street Journal article, is seeking an investment of $5.6 million.

- Another trainee incorporated her company and received an SBA loan. This business tests corrosion-resistant coatings, and currently has a contract with the San Diego utility company.

- Another trainee entered into a partnership and began manufacture of lightweight, high-performance bicycle components using reinforced aluminum metal matrix materials.

The second retraining component, training in **Computer-Aided Three-Dimensional Interactive Applications (CATIA)**, was developed in response to requests from local employers and from laid-off engineers (clients of the Career Centers). At the time the project was planned, many San Diego firms were anticipating the need to convert to CATIA, and were asking both for engineers trained in CATIA and also for the development of the capacity to provide ongoing CATIA training at the local level. For the demonstration, the CACT developed and taught an 80-hour CATIA class to 74 design professionals (five separate sections with approximately 15 students each), including engineers, designers, and drafters.

The project recruited participants for the CATIA training from among the thousands of laid off defense workers who already were clients of the San Diego Career Centers. Interested design professionals completed both a written application and a personal interview, which screened for design experience, computer knowledge, and seriousness of the applicant's job search. After completing the training, participants worked with the demonstration job developer to search for jobs. Unfortunately, this introduction to CATIA did not appear to have made a significant difference in helping participants find jobs. Although the job placement rate eventually exceeded 65%, the average time-to-reemployment for the CATIA trainees was about eight months, about the same as for participants in the general Title III program. Project staff attributed the disappointing results of the CATIA training to several factors, including: (1) the San Diego job market was extremely crowded, particularly for engineers; (2) advances in other design software packages reduced the need for San Diego firms to convert to CATIA; and (3) nationally, firms that use CATIA typically hire engineers with at least 1,000 hours of CATIA experience.

Toward the end of the grant period, the project developed an additional 120-hour training component in semiconductor manufacturing for ten of the CATIA trainees who had not yet been placed. A local training provider developed the training in coordination with local firms. Although eight of the participants in this training component were employed by the end of the grant period, none were working in the semiconductor industry. In developing this training component, project staff seriously underestimated the stiff resistance semiconductor manufacturing companies would show toward hiring former defense design professionals, even such professionals who insisted that they were willing to start "at the bottom rung" in a new industry and work for much lower wages than they had received in their defense jobs. It also was a questionable strategy to pick semiconductor manufacturing as a new unrelated target occupation for these former design professionals, after the CATIA training had failed to make them attractive to local employers.

The last retraining component, training in **Manufacturing Technology Skills**, was developed specifically in response to the survey of employers conducted by EDC. This 88-hour course, developed and taught by the CACT, covered a range of skills under the three categories of Total Quality Management, Resource Planning and Process Control, and Leadership for Lean Company Management. Participants for this course were recruited from the pool of Career Center clients. Unlike the CATIA course, which targeted engineers and designers, this training project sought participants representing a broad range of occupations associated with manufacturing. Each of the three course sections (of about 20-25 students each, for a total of 71 participants), contained students with varying backgrounds. This was done intentionally so that workplace simulations would be more realistic (e.g., problem-solving within cross-functional teams). One of the innovative aspects of this training component was that TQM skills were taught in the context of what all the participants had in common: conducting a job search with a background in defense work.

The participants in this training did find jobs more quickly than the CATIA trainees, and by the end of the grant period the project had nearly placed 65% of the trainees. Whether or not the TQM training provided that "extra something" that helped participants find employment in a market saturated with job seekers with similar skills is difficult to assess. By the time the TQM training was completed, the economy was beginning to improve slightly, and dislocated defense workers in general were having an easier time finding employment. Also, a major difference between the TQM training participants and the CATIA trainees was that the TQM participants came from all types of occupations associated with manufacturing, while the CATIA students came from a narrow range of engineering and design occupations. This meant that the TQM trainees had skills that could transfer more easily to a broader range of jobs, and they also were more willing than most of the CATIA engineers to take jobs with lower pay. All of the TQM trainees who were contacted reported that the training had made little, if any, difference in their job search.

DISLOCATION AVERSION ACTIVITIES: DEFENSE CONVERSION ROUNDTABLES

The San Diego project included one dislocation aversion strategy, Defense Conversion Roundtables. This strategy was managed by CONNECT. Its roundtables, held once each quarter for a total of six, brought together senior-level defense executives to learn about commercial high-technology opportunities. Each roundtable focused on a specific topic such as commercial electronics, high-tech communications, and environmental technology. Each roundtable featured three speakers representing a variety of perspectives such as those of successful high-technology entrepreneurs, representatives from market research firms, potential clients (such as Bay Area Rapid Transit) who need a particular piece of technology that is not yet on the market, and defense companies that have been successful moving into commercial markets. The roundtables were well-attended and often included lively question-and-answer periods. Participating defense firms did not, however, seek further technical assistance from CONNECT and CACT in pursuing defense conversion activities in the way that was envisioned by the project planners.

PROJECT OUTCOMES

The table below lists the San Diego project's proposed objectives with an assessment of whether each was achieved or not. As shown, the project was successful in meeting some of its goals; more than 140 dislocated defense workers received training, the human resources database was created, and the high-tech entrepreneurial training program did lead to the creation of substantially more business start-ups than the proposed five. Although these businesses are in various stages of development, several have the potential to grow to a size where they would provide employment for significant numbers of San Diego workers.

The project was not as successful in achieving several of its other proposed outcomes, including creating a defense conversion database and providing technical assistance and early intervention, for reasons that were described above.

THE SAN DIEGO PROJECT
PROJECT OUTCOMES IN RELATION TO OBJECTIVES

Objectives	Outcomes
The project will develop a defense conversion database to be used to design and implement appropriate readjustment and retraining services for dislocated defense workers, and to provide technical assistance and early intervention services to at-risk defense firms and employees.	Objective not met. Although limited survey responses were used to determine content of Total Quality Management training, the project was not able to combine various databases in the way that was envisioned by project planners. No technical assistance and early intervention services were provided to at-risk firms.
The project will provide a variety of entrepreneurship training components for up to 150 dislocated and at-risk defense employees.	Objective not met. Nineteen participants received training in high-technology entrepreneurship. The San Diego Private Industry Council and Consortium also provided an introductory class in small business start-up to dislocated defense workers. Because this activity was funded through the regular Title III program, data were not collected on the number of workers completing the class.
The project will provide training for at least 140 dislocated and at-risk defense employees.	Objective met. Seventy-four dislocated defense workers received training in Computer-Aided Three-Dimensional Interactive Application, and 71 dislocated defense workers received training in TQM and other modern manufacturing processes.
The project will provide the training and technical support for at least five dislocated and at-risk workers to start new businesses.	Objective met. Out of the 19 participants in the high-technology entrepreneurial training course, 18 were developing new enterprises. These new businesses were in various stages of development, such as incorporating, seeking investors, beginning to manufacture a product, or providing consulting services.
The project will shorten the average time between dislocation and job placement by developing a human resources database to link dislocated and at-risk workers directly to known sources of demand for their skills.	Objective not met. The project was not able to create this database in the way that had been envisioned by project planners.
The project will create at least five startup high tech enterprises through CONNECT's Defense Conversion Roundtable and High Tech Entrepreneurship component.	Objective met. See Goal 4 comment. To the knowledge of project staff, no new enterprises had come about through the Defense Conversion Roundtables.
The CONNECT Roundtable meetings will improve technology transfer between defense research, products, and technologies and commercial markets and applications.	Unknown if objective met. The Roundtables were well-attended, but project staff did not have any formal way of following up to find out about any resulting cooperation between the participating companies.
The Human Resources Database developed through the Economic Conversion Program, Economic Development Corporation, CONNECT, and the Career Center will identify areas of critical need for skills training, both current and future.	Objective met. The project did conduct a survey of employers that identified areas of need for skills training.
The Technical Assistance and Early Intervention component will help to avert further dislocations among at-risk companies by addressing the defense industry customer/supplier network and working with defense companies to find suitable commercial markets for existing products.	Objective not met. The Technical Assistance and Early Intervention component did not occur.
The project will help to retain San Diego's high value-added industrial base by providing the support and retraining for skilled dislocated defense workers to find jobs in other high tech occupations.	Objective not met. Too few workers trained to make a difference.

SUMMARY COMMENTS

The San Diego demonstration project involved a true partnership among agencies that previously had little experience working together. This working partnership led to further partnerships and an additional large grant, and increased the visibility of the employment and training agency within the broader community.

The project included a highly successful high technology entrepreneurial training program. This program model could be replicated in other areas that have large pools of very talented, senior-level defense industry scientists and managers.

The project was an ambitious one, and several of the services originally promised were not delivered. The envisioned Human Resources Database did not materialize, in part because the staff lacked sufficient expertise in the design and analysis of employer surveys. Dislocation aversion activities, particularly technical assistance and early intervention to at-risk firms, were also not provided as promised.

The design for skills training contained some serious problems that did not become obvious until the project was up and running. More specifically, the short-term training provided was not sufficient to give participants a competitive edge in the local labor market. Although project staff attempted to address some of the weaknesses of the CATIA training program after these became apparent, they were not fully successful in overcoming the barriers former defense design professionals faced in moving into new occupations.

FACT SHEET: DEMONSTRATION PROJECT

ALTERNATIVE FUELS TRAINING PROJECT

Project Location	Austin, TX	*Grantee*	Texas Railroad Commission (TRC)
Type of Approach	Worker Mobility	*Project Administrator*	TRC's Liquefied Petroleum Gas Division
Period Covered by Grant	November 1992–September 1995	*Key Contact(s)*	Rochelle Pemberton, TRC's Liquid Petroleum Gas Division
Grant Amount	$480,979	*Geographic Area*	Dallas-Fort Worth metropolitan area

Context

The economy of the Dallas-Fort Worth area grew rapidly during the 1980's, partly as a result of increased defense spending that resulted in tremendous job creation via local defense firms. The recession of the early 1990's, however, combined with the subsequent national defense drawdown caused the dislocation of large numbers of area workers. Between 1989 and 1991, 13,000 defense-related jobs disappeared from the Dallas-Fort Worth area and the situation was expected to worsen as a result of additional private sector defense downsizing and the closure of a local Air Force Base.

Primary Goals

The alternative fuels project was conceived as an effort to match dislocated defense workers with new jobs in the growing alternative fuels technology industry. The project sought to:

- Develop a high-quality replicable alternative fuels technology training program for continuing use at post-secondary educational institutions.
- Enroll 150-300 participants in alternative fuels training to prepare them for jobs as fleet managers, conversion technicians, or maintenance technicians.
- Place trained participants in high-quality alternative fuels jobs within one to three months of training completion.

Key Players

- **Texas Railroad Commission's Liquefied Petroleum Gas Division** — Formal grantee and administrator of the project.
- **Texas State Technical College** — Developed the alternative fuels curriculum; trained course instructors.
- **Texas Employment Commission** — Attempted to place trained participants in new jobs.
- **Other Public Partners** — Five local Title III of the Job Training Partnership Act substate areas recruited participants. Two local community colleges provided training to project participants.

Significant Outcomes

- A rigorous and replicable curriculum was developed.
- 123 participants completed training in alternative fuels technology training.
- Placement rate and wages were lower than project planners had anticipated.

ALTERNATIVE FUELS TRAINING PROJECT

Dallas - Forth Worth, Texas

THE CONTEXT

The Dallas-Fort Worth area is a fast-growing metropolis of more than three million individuals, covering hundreds of square miles and including two central cities as well as a number of satellite cities with populations up to 150,000. Dallas is a "front office" city with a population of about 1.5 million, nearly three times the population of its sister city of Fort Worth. Fort Worth is both more suburban and more industrial than its neighbor. Through much of the 1980s, Dallas-Fort Worth enjoyed a booming economy. The area's economy, already diverse with construction, services, and manufacturing interests, grew and diversified rapidly. Among the stars were large- and medium-sized defense contractors, producing everything from aviation electronics to uniforms.

The early 1990s recession, combined with the slowdown in defense spending, was hard on the local economy. Unemployment increased and the manufacturing sector in general suffered significant employment losses. According to the Defense Conversion Adjustment (DCA) demonstration proposal, defense contractors in Dallas-Fort Worth lost over 13,000 jobs between 1989 and 1991. Additional major layoffs occurred between 1991 and 1994, at General Dynamics, Lockheed, and Vought. The latter downsized its plant that produced military aviation electronics from 25,000 to 5,000 employees. These job losses from reductions in direct defense contract work were accompanied by the loss of significant numbers of jobs at defense industry suppliers. Additional civilian jobs were lost as a result of the closure of Carswell Air Force Base in Fort Worth.

Unrelated to these employment losses was the failure of the Dallas-Fort Worth area to meet federal and state clean air standards (i.e., it is a ***non-attainment*** area). To address this problem, between 1989 and 1994, Texas laws encouraged the use of alternative fuels such as propane and liquefied petroleum gas, particularly in public vehicle fleets.

The Alternative Fuels Training Project was initiated by the Texas Railroad Commission's Liquefied Petroleum Gas Division, which is responsible for licensing the sale and regulating the use of alternative fuels such as liquefied petroleum gas, compressed natural gas, and propane. When the DCA grant solicitation was issued, senior Railroad Commission officials saw that they could combine the goal of promoting the utilization of alternative fuels with the goal of assisting dislocated defense workers to find reemployment in a growth industry. Railroad Commission staff sought the support of the Texas Employment Commission and Title III of the Job Training Partnership Act substate areas of the Dallas-Fort Worth area to develop the demonstration project. The design of the project was based on the expectation that jobs related to the conversion of vehicles to alternative fuels, and the maintenance of alternative fuels systems, would continue to be demand occupations in the State of Texas.

GOALS

The major goal of Alternative Fuels Training Project was to match dislocated defense workers to new employment opportunities being created in the alternative fuels industry. The project was designed to take advantage of the strong technical skills of dislocated aerospace workers by offering them training in the installation and maintenance of alternative fuels systems in automobiles and other vehicles. In addition, project planners were led to believe that dislocated defense engineers and administrators had work-scheduling backgrounds that might be matched to new careers as fleet managers, administrators of fleet conversion projects, or vehicle safety specialists.

After the first few training sessions, project staff realized that many of the specific project objectives formulated in the original proposal were unrealistic. They obtained a contract modification from the Department of Labor in June of 1995 that formally restated some of these objectives. Both the original and modified objectives are noted below:

- The enrollment of 300 (modified to 150-200) dislocated defense workers in alternative fuels training with a 75% successful completion rate.
- The placement of 75% (modified to 50%) of project completers into alternative-fuels-related jobs within one month (modified to three months) of training completion.
- Placement of completers in jobs paying between $12 to $17 per hour. (The new contract did not formally modify this objective, but noted that wage rates at placement were more likely to be in the range of $8 to $10.)
- Gaining certification of the training curriculum from both the U.S. Department of Energy and the Texas Higher Education Coordinating Board. (Because the Department of Energy delayed implementation of its certification process to 1996, the contract modification changed this objective to "obtain certification at the time that the certification process is established.")
- Obtaining Automotive Service Excellence (ASE) certification for 75% of project completers. (Because the ASE testing schedule could not be integrated into the training schedule, the contract modification changed this objective to "encourage all students to pursue ASE or other nationally recognized automotive certification.")
- Developing a project curriculum, and preparing documentation, including an operations manual, to be used by other training providers and secondary education institutions to prepare more workers for this emerging occupation. (This objective was not modified.)

KEY PLAYERS

Texas Railroad Commission (TRC). The official grantee, this agency is one of the oldest state regulatory entities in the U.S. It was founded in the 19th century to regulate the state's railroad industry. Since that time, it has been given the responsibility to regulate all of Texas' transportation industries and a variety of other commercial interests (e.g., weights and scales, petroleum pipelines).

The Railroad Commission is overseen by three commissioners and has a large professional staff in Austin.

Liquefied Petroleum Gas Division. Staff within this division of the Railroad Commission were responsible for day-to-day project management. The Division did not provide project services directly, but developed service agreements with its partners, who are listed below as the remaining key players.

Texas State Technical College (TSTC). Located in Waco, Texas, this educational institution developed the alternative fuels curriculum, prepared two portable engine demonstration units, and conducted "train the trainers" sessions for course instructors.

Five Title III Substate Areas. These Title III entities in the Dallas-Fort Worth area were responsible for recruiting and referring clients to the project. They also provided basic readjustment services to participants.

Tarrant County Junior College. This institution in Fort Worth provided training for demonstration participants.

Bill J. Priest Institute for Economic Development. This office of the Dallas County Community College District also provided training for demonstration participants.

Texas Employment Commission (TEC). The Texas employment security agency, the TEC was responsible for placing demonstration project participants into jobs. It designated a full-time job placement specialist for the project.

The project partners were contractually tied to the Texas Railroad Commission (TRC) with memoranda of agreement. Demonstration funds were used for project management, development of the training curriculum and instructional materials and equipment, and provision of training and placement services. Basic readjustment services were funded by Title III grants to the substate areas.

Although all project partners might have benefited from project-wide meetings at the outset to clarify each partner's roles and responsibilities, no such meetings were held until after the first cohort of dislocated workers had completed training. The project continued to be hampered by a lack of communication and consensus among the Railroad Commission and its project partners about how to select and refer appropriate trainees to the project.

THE IMPLEMENTATION EXPERIENCE

The implementation of the project was influenced by changes in the regulatory environment that eroded some of the project's foundations. In 1994, after the project was underway, changes in federal policy permitted the use of reformulated gasoline as part of remediation plans for non-attainment areas. The Texas legislature subsequently defeated a measure that required local governments to adopt alternative fuels systems for public vehicle fleets. These two developments reduced the demand for alternative fuels technicians, and for training offered by the project.

RECRUITMENT AND SELECTION OF PARTICIPANTS

The Alternative Fuels Training Project depended on the five Dallas-Fort Worth Title III substate areas or their designated service providers for the referral of clients appropriate for training. Participant selection got off to a rocky start. The Railroad Commission initially asked each substate area to come up with a list of 60 Economic Dislocation and Worker Adjustment and Assistance Act (EDWAA) participants who might be interested in and appropriate for the training program. A lottery would be used to decide the order in which applicants would enter training. (The training design called for the provision of an ongoing series of five-week training cycles throughout the demonstration period.) The EDWAA program operators balked at this suggestion. They argued that the substate areas with greater numbers of participants should contribute a higher percentage of the referrals. They also argued that there was no reason to pick all the participants up front, since there was room for only about 40 in the first training cohort. The Railroad Commission conceded.

Four of the five substate areas initially referred participants to the program. One of these served a large population of dislocated defense workers and easily identified potential participants. The other substate areas engaged in special outreach efforts for the Alternative Fuels Project. These efforts included service provider screening of all EDWAA applicants, and developing a flier for distribution to EDWAA enrollees.

The failure of Railroad Commission staff to specify the desired characteristics of training program participants created difficulties for substate area staff. When pressed, Railroad Commission staff referred the substate area staff to the selected training providers for advice. Eventually, each substate area took a slightly different approach. Two substate areas appeared to refer any EDWAA eligible individual who expressed an interest in the training. Another substate area specified only that participants have "some mechanical ability." The fourth substate area that referred participants to the alternative fuels training referred only individuals with strong automotive backgrounds.

By mid-1995, only two substate areas continued to make referrals to the program. Staff of the substate areas were increasingly reluctant to recruit new participants, given the poor placement rates and lower than expected wage rates of the early training graduates. Students from the first training session were particularly disgruntled due to delays in the delivery of class equipment and uniforms, and their complaints contributed to the negative image of the program among substate area staff as well as among potential clients for the program. Demand for alternative fuels training was further reduced when workers dislocated from Vought became eligible for Trade Assistance Act benefits, including six additional months of Unemployment Insurance and some Title III benefits. An improvement in the Dallas-Fort Worth economy in 1995, with a drop in the unemployment level, may have been yet another factor that negatively affected interest in the program.

In addition, project staff as well as substate area staff became convinced by 1995 that a strong automotive repair background was highly desirable for project participants, and this kind of background was rare among the eligible population. One substate area began to address this problem by offering new clients the opportunity to pursue a six-month automotive repair course at a local vocational school in conjunction with the alternative fuels training. But referrals from the other substate areas continued to shrink, even though the TRC introduced a new module on automotive systems at this time.

NUMBERS AND CHARACTERISTICS OF PARTICIPANTS

A total of 123 participants enrolled in the nine sessions of Alternative Fuels Training. Of these, 122, or 99%, completed the classes. After the first two sessions, which had 31 and 34 participants, enrollment levels dropped dramatically. Subsequent sessions enrolled between two and 12 students each, reflecting the recruitment difficulties described above.

A review of the characteristics of the first 34 trainees revealed that nearly all were males, with only one woman participant. Most participants were in their 30s or 40s and had more than five years' tenure at their last job. The majority had been aerospace production workers and were members of trade unions. A few others were former production workers who had been promoted to quality control inspectors, or were relatively low-skilled technical or white collar employees. The large majority of the first group of trainees were former employees of Lockheed or Vought, both large prime contractors in the defense aerospace field. Subsequent cohorts of trainees appeared to have characteristics similar to those of the first group, but specific data were not available.

SERVICES PROVIDED

The responsibility for service delivery was divided among (1) the local Title III substate areas, which provided basic readjustment and supportive services; (2) the two alternative fuels training providers selected by the Railroad Commission; and (3) the Texas Employment Commission, which was responsible for placement. Only the five-week training program and placement services were paid for with demonstration funds.

Prior to and during participation in the demonstration project, participants were enrolled in EDWAA and eligible to receive basic readjustment services from the Title III program in their local areas. Thus, some of the participants referred to the Alternative Fuels Training Project had received services from special Title III transition centers created for large scale layoffs (e.g., from Lockheed and Vought), while others were served by general programs for dislocated workers in their local substate areas. Among the basic readjustment services they were likely to have received prior to being referred to the project were assessment, career counseling, and job search training and assistance. However, the range and intensity of these services varied substantially from substate area to substate area.

The individual substate areas were also responsible for providing supportive services to participants before and during training. While all participants had access to supportive services, the types and levels of services varied widely. For example, some of the participating substate areas offered relocation benefits while others did not; some offered needs-related payments to participants in training, while others offered only a transportation allowance. The actual dollar amounts available also varied by Title III substate area and provider. Participants became concerned about these variations, once they started comparing notes with participants referred by other substate areas.

Participants in the first training cohort were referred directly to the training provider for training. The need for an orientation became apparent after trainees asked questions that indicated they did not have an accurate impression of the content of training or the types of jobs or wages for which they were being prepared. For the second cohort of trainees, the Railroad Commission helped organize a one-day orientation at the beginning of training. The orientation covered:

- An introduction to the project, the project partners, and staff.
- An overview of alternative fuels technology.
- Job market information provided by the Texas Employment Commission.
- A tour of the training provider facilities.
- Official project registration.
- Measurement for uniforms.

The orientation served to ensure that participants had realistic employment and salary expectations, which had been somewhat exaggerated by early project outreach efforts.

Alternative fuels instruction took place in the automotive maintenance facilities operated by the two training providers. The training itself consisted of 160 hours of instruction, 32 hours per week for five weeks. About half the instructional time was spent in the classroom, and the remainder was spent in laboratories. Classroom time was focussed on lectures with questions from students encouraged. The laboratories offered participants a chance to practice on vehicles and engine demonstration units, working in small groups. Both training providers hired automotive service instructors and made available state-of-the-art classroom and automotive facilities.

Written curriculum materials were developed specifically for this project by Texas State Technical College at Waco and appeared to be of high technical quality. The curriculum covered the following subjects:

- An introduction to alternative fuels, covering the history, need, and applications of alternative fuels.
- Determining if a vehicle is in proper condition for conversion.
- Liquefied petroleum gas conversions.
- Compressed natural gas conversions.
- The "driveability" of liquefied petroleum gas converted vehicles.
- The "driveability" of compressed natural gas vehicles.

- An introduction to vehicle emissions.
- A "train the trainer" guide for instructors.

Based on feedback from employers, a new, 100-hour module on basic automotive systems was introduced beginning with the fifth training session. To allow time for this module, time devoted to instruction in fleet administration was reduced, and sub-modules on life cycle costing and on starting an alternative fuels business were eliminated. The TRC agreed to support the cost of any training terminee who wanted to return for the new module; we learned that some terminees did take up this offer, but specific numbers were not provided.

Each module contained pre- and post-tests, copies of classroom handouts, and some reference materials. Interviews with instructors and clients indicated that the curriculum was well liked and respected. The instructors believed that it was a very complete treatment of the subject, even if its structure was so tight that it allowed little flexibility in classroom presentation. The students reported that it was a good teaching tool and included useful information.

Upon successful completion of training, participants were referred to the TEC job developer assigned to the demonstration. Prior to and during training, this job developer performed outreach to potential alternative fuels employers throughout Texas, through direct mailings, visits to potential job sites, and presentations about the program. Like other TEC job developers, the project job developer worked closely with participants to develop appropriate resumes and arrange informational and job interviews with prospective employers.

Placement outside of the Dallas-Fort Worth area, and particularly outside of Texas, was very limited. Visits to potential employers were the most effective source of placements, but a limited travel budget prevented the job developer from making such visits outside the area. The unwillingness of clients to relocate was another barrier to placements.

PROJECT OUTCOMES

Although the Alternative Fuels Training Project experienced disappointing results with respect to its enrollment and employment objectives, it did succeed in developing an innovative and effective curriculum. The table below summarizes project objectives and outcomes.

ALTERNATIVE FUELS TRAINING PROJECT
PROJECT OUTCOMES IN RELATION TO OBJECTIVES

Objectives	Outcomes
Enroll 300 to 150 participants and achieve a 75% successful completion rate. (Modified: Enroll 150-200 participants achieve a 75% completion rate.)	Objective partly met. Only 123 participants were enrolled. The completion rate, however, was close to 100%.
Place 75% of project completers into alternative fuels related jobs within 1 month of training completion. (Modified: Place 50% of completers into alternative fuels related jobs within 3 months of completion.)	Objective not met. Only 24 (20%) of the 122 graduates received placements as automotive technicians, while 20 (another 16%) were placed in related automotive industry jobs, and 50 in unrelated jobs. Data on the timing of the placements were not available.
Placement of completers in jobs paying \$12 - \$17 per hour	Objective not met. Graduates were paid \$8 - \$10 per hour because the industry considered them entry level.
Gain certification of the program from the U.S. Department of Energy (DOE) and the Texas Higher Education Coordinating Board. (Modified: Gain certification from the Higher Education Board and from the Department of Energy when the latter implements its certification process.)	Objective partly met. DOE did not implement its certification process prior to conclusion of the project. Certification from the state of Texas was secured so that graduates were able to receive continuing education credits.
Obtain Automotive Service Excellence certification for 75% of completers. (Modified: Encourage graduates to obtain certification on their own.)	Original objective not met; modified objective met.
Develop and document a comprehensive training package that may be implemented by post-secondary institutions locally or statewide.	Objective met. A high quality curriculum was developed.

SUMMARY COMMENTS

The Texas Alternative Fuels Project began with an innovative design that promised to simultaneously reemploy dislocated defense workers and ameliorate air quality problems in the Dallas-Fort Worth area. Unfortunately, the project's original assumptions about the numbers and quality of jobs available in the alternative fuels industry, and about the project's ability to recruit dislocated defense workers to be trained for such jobs, proved to be unrealistic. Changes in the regulatory and economic environment, combined with project flaws such as weak coordination among the project partners, slow start-up, and inadequate labor market information, produced disappointing results for project participants.

However, the project did succeed in developing a rigorous and effective training curriculum, presented by highly qualified instructors. Instruction was enhanced by the use of portable engine demonstration units designed for this project. Both training providers for the project, the Dallas Community College District and the Tarrant County Junior College, plan to continue to offer alternative fuels training, based on the curriculum and materials developed for this project.

APPENDIX B

SUPPLEMENTARY PROJECT FACT SHEETS

FACT SHEET: SUPPLEMENTARY PROJECT

CALIFORNIA COMMUNITY COLLEGE ECONOMIC DEVELOPMENT NETWORK (ED > NET)

Project Location	Clovis, CA	*Grantee*	California Community Colleges Chancellor's Office
Type of Approach	Worker Mobility	*Project Administrator*	CA Community College Economic Development Network (ED > Net)
Key Sources of Public Funding	Office of Economic Adjustment (OEA), Department of Defense		
Grant Amount/ Period of Support	$3.1 million from 1995 to 1996	*Key Contact*	Bob Cumming, Director of DOD Program, ED > Net
Geographic Area	The State of California	*Population Targeted*	Dislocated defense workers

Context

The economy of the State of California has absorbed a substantial proportion of the reductions in national defense spending since 1988. The massive scale on which worker dislocations have occurred make reemployment difficult without skills upgrading or training. Many dislocated workers have enrolled in California's Community College system to secure such training. ED > Net sought funds to expand and enhance the capacity of community college programs in which there were high concentrations of dislocated defense workers, specifically targeting three of its educational initiatives: Advanced Transportation, Environmental Technologies, and Small Business/International Trade.

Primary Goals

ED > Net used Office for Economic Adjustment (OEA) funds to support:

- The establishment of training programs in colleges in close proximity to large groups of dislocated defense-workers who could benefit from them.
- The capacity-building of current programs to prepare dislocated defense workers for jobs in emerging and high-growth industries.
- Improving the institutional links that render the community college network a training provider of choice for CA firms and employees.

Key Players

- **Chancellor's Office** — Formal grantee and monitor of OEA funds.
- **ED > Net** — Primary administrator of grant and coordinator of ED > Net activities and strategic planning for the community college network.
- **Program Staffs** — Liaisons between ED > Net, the instructors at individual colleges, and the communities in which the colleges are located.
- **Community Colleges** — Training providers and coordinators of on-site programs.

Significant Outcomes

- Developed an entrepreneurial training program that can be tailored to the needs of firms or individuals; 19 colleges benefited though 1995.
- Established Advanced Transportation Centers in six colleges across the state.
- Curriculum in Environmental Technologies developed; 25 faculty are being trained in the program.

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THE EMPLOYMENT AND TRAINING INSTITUTE (ETI) CAREER TRANSITION CENTER

Project Location	East Hartford, CT	***Project Administrator***	Employment and Training Institute (ETI)
Type of Approach	Worker Mobility	***Key Contact***	Dr. Rita Carey, Executive Director, ETI Career Transition Center
Key Sources of Public Funding	Title III National Reserve Account (NRA) Funds, Trade Adjustment Act Funds, Title III/40% Funds, State-Level support	***Population Served***	Dislocated defense workers from Pratt & Whitney (PW) and Hamilton Standard (HS)
Grant Amount/ Period of Support	Approximately $12 million in total grant support from 1991–1996	***Geographic Area***	State of Connecticut Southern Massachusetts

Context

The State of Connecticut has witnessed the collapse of its top three industries during the last decade. During the late 1980's, banks and insurance providers laid off workers in large numbers; the defense industry began to downsize in 1989. During the last five years, defense-related employment in private industry has fallen over 30% in Connecticut, as well as in the New England region as a whole.

Primary Goals

The International Association of Machinists (IAM) locals at PW and HS, both large aerospace firms owned by United Technologies, vigorously campaigned for federal assistance, resulting in a series of Title III discretionary grants being awarded to the state of Connecticut. ETI was contracted to provide outplacement services. Subsequent additional public funds were also awarded. The project sought to:

- Provide a one-stop service center to assist program participants in transitioning out of defense industry jobs and into new private-sector jobs or into high-quality training programs in preparation for new careers.
- Educate participants about the changing economy and the new workplace.
- Assist participants in developing the skills required for continued personal and career growth and development.

Key Players

- **ETI** — A private for-profit organization selected through a competitive process to be primary manager and administrator of all services provided to participants through the Career Transition Center.
- **Labor–Management Committee** — Oversight body comprised of union representatives and human resource managers from both PW and HS.
- **Connecticut Department of Labor** — Official grantee, with little involvement in the coordination and maintenance of the project.

Significant Outcomes

- Project enrolled and served over 3,500 participants while maintaining a high level of client-focused case management, linking participants to a variety of basic readjustment and training services both on- and off-site.
- Project demonstrated an 89% placement rate (for participants transitioning directly to new jobs and those completing training).

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GLENVIEW NAVAL AIR STATION "WINGS" TRANSITION CENTER

Project Location	Glenview, IL	*Project Administrator*	Northern Cook County Private Industry Council (PIC)
Type of Approach	Worker Mobility	*Key Contact*	Al Saulys, Program Manager, Northern Cook County PIC
Key Sources of Public Funding	Defense Diversification Program (DDP) Funds; State funds	*Population Served*	Dislocated civilian workers from Glenview Naval Air Station eligible for DDP funds
Grant Amount/ Period of Support	$648,000 in total grant support, from 1994 to 1996	*Geographic Area*	Northern Illinois

Context

Glenview Naval Air Station is located in an affluent suburb of northern Illinois, just outside of Chicago. In 1993, it was announced that the base would be closed in 1995. Prior to downsizing, the base was the largest employer in the municipality. The Illinois Department of Commerce and Community Affairs (DCCA) led an effort to seek federal support for dislocated workers. A labor-management committee was established to assist in seeking funds for a "one-stop" service center to assist dislocated workers from the base in transitioning to new careers. The committee also succeeded in securing in-kind contributions from the base, and assessing the needs of dislocated workers.

Primary Goals

With the assistance of the PIC and the committee, the DCCA secured DDP funds to support the center and to supplement the original start-up funds provided by the state. The center, called "Winning Individuals Need Guidance and Support," or WINGS, opened in January 1994. The center used a voucher-based system to provide high quality assessment, basic readjustment services, and training to project participants. The project sought to:

- Use other "one-stop" centers as a model for service delivery at WINGS.
- Partner with a variety of public and private service providers with experience in serving dislocated defense workers.
- Serve 220 dislocated defense workers from the Naval Air Station.

Key Players

- **DCCA and Northern Cook County PIC** — Formal grantees and primary administrators of services provided to project participants.
- **Labor–Management Committee** — Advisory body comprised of union representatives and managers; played crucial roles in establishing the center, recruiting participants, and securing additional in-kind support.
- **Educational Partners** - Over 300 such training providers were accessible to dislocated workers seeking training through the vendor/voucher agreements with the PIC.

Significant Outcome

- Project secured the support of numerous public agencies and base officials. Project enrolled and served 169 participants as of December 1995.

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GRISSOM "SPIRIT" CENTER

Project Location	Peru, IN	*Project Administrator*	North Central Indiana Private Industry Council (PIC)
Type of Approach	Worker Mobility	*Key Contact*	Richalene Kozumplik, President, North Central Indiana PIC
Key Sources of Public Funding	Defense Conversion Adjustment (DCA) Funds; State-level Funds	*Population Served*	Dislocated civilian workers from Grissom Air Force Base
Grant Amount/ Period of Support	$653,312 in total grant support from 1994 to 1996	*Geographic Area*	Miami, Howard, and Cass Counties, Indiana

Context

Grissom Air Force Base is located in a semi-rural area of central Indiana. In 1991, the Base Realignment and Closure (BRAC) Commission announced the planned realignment of the base scheduled for September 1994. Approximately 1,100 civilian workers were expected to lose their jobs. However, a Labor-Management Committee that was formed to assist in the realignment process succeeded in reclassifying a large number of civilian jobs in an effort to preserve them. Although 400 additional jobs are slated for elimination, 700 civilians were still employed at the base in January 1996 and Grissom remains the largest employer in Miami County.

Primary Goals

The North Central Indiana PIC sought state and federal support immediately after the plans for realignment were announced. The Indiana Department of Workforce Development provided the PIC with funds to support a worker assistance center - the "SPIRIT" Center was opened on a part-time basis in December of 1992 and the bulk of lay-offs were postponed, prompting the PIC to seek additional support. The DCA grant was awarded in 1994. The project sought to:

- Establish a career transition service center to assist program participants in transitioning out of defense industry jobs and into new private-sector jobs.
- Educate participants about the changing economy and the new workplace.
- Assist participants in developing the skills required for continued personal and career growth and development.

Key Players

- **North Central Indiana PIC** — Formal grantee and primary administrator of all services provided to project participants.
- **Labor–Management Activities Committee** — Advisory body comprised of union representatives and managers, played crucial roles in establishing the center and recruiting participants from the base.

Significant Outcomes

- Project enrolled and served 92 participants; most remain in classroom training. Although services provided include basic readjustment, supportive services, and training in SCANS skills, it is the service delivery *system* that is particularly innovative: the project has adopted High Performance Work Organization (HPWO) skills, including Total Quality Management (TQM) and Continuous Process Improvement (CPI). Participants have the opportunity to achieve classroom competency in these skills, observe them in practice, and provide customer feedback.

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THE SOUTH BAY AEROSPACE NETWORK (PAN)

Project Location	Inglewood, CA
Type of Approach	Worker Mobility
Key Sources of Public Funding	Title III National Reserve Account (NRA) Funds
Grant Amount/ Period of Support	$18 million in total grant support from 1995 1996
Geographic Area	Los Angeles, Orange, Riverside, Santa Barbara, San Bernadino and Ventura Counties in southern CA
Project Administrator	South Bay Private Industry Council (PIC)
Key Contact	Jan Vogel, Executive Director, South Bay PIC
Population Served	Dislocated defense workers from eight defense firms and eight military facilities in the six-county service delivery network

Context

The economy of the State of California has absorbed a significant proportion of the reductions in national defense spending since 1988. Much of the resulting job loss has been concentrated in southern California, where the lingering recession has prevented growth in other industries as well. In late 1993, as major defense contractors were announcing increasingly larger rounds of lay-offs, defense industry representatives and staff from local PICs identified the need for a coordinated regional effort to provide training and employment services.

Primary Goals

The South Bay PIC took the lead in laying the foundation for a regional service delivery system. It applied for and was awarded Title III NRA funds for the purpose of establishing a new approach to delivering services to dislocated defense workers. The South Bay PIC Aerospace Network (PAN) was established in the Spring of 1995 to provide such services. The project sought to:

- Establish a permanent and electronically-networked regional, voucher-based system for the delivery of services and training to 5,000 eligible dislocated defense workers.
- Establish a system for identifying and replicating "best practices" in service delivery among PICs with a view toward continuous improvement.

Key Players

- **South Bay PIC** — The grantee and administrator for the Title III NRA grant and coordinator of PAN activities for the 16 PICs in the six-county PAN area.
  Approved Defense Firms — Involved in the planning process and in ongoing coordination of PAN activities.
- **California Department of Labor** — Involved in an active oversight and coordination capacity.

Significant Outcomes

- Project established the potential for an ongoing electronically-linked network that allows for coordinated services while permitting varying degrees of local autonomy; formal contacts have been signed between participating PICs.
- Based on input from "best practices" committees, the project developed standardized procedures and materials to train PAN staff in following them.
- Project has served approximately 800 dislocated workers and requested an extension due to delays in planned lay-offs.

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